CB Action

AUSTRALIA'S ONLY CB MAGAZINE

SEPTEMBER / OCTOBER 1988 $3.00

Win A NEW ELECTROPHONE TX-472S

EVIEWS:

472S
ER LION Mk2
NDOWNER UH-007
RCAT 145XL
ANNER

6 Ellement Beam · Page 22.

New Sections:
DX NEWS AND PROPAGATION CHART
SHORT WAVE DXING

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Contents

5	ON CHANNEL	Editor
7	LOG BOOK	News Bits and Pieces
9	WHAT TO DO ABOUT TVI	Facts on a major problem
13	DESIGNING the TX-472S	David Flynn
15	TESTING THE TX-742S	Staff
18	WORDMAZE	Win a TX-472S
20	DX AIDS	Illegal accessories
22	TOMLINSON YAGI	Four element beam
25	145XL SCANNER REVIEW	David Flynn
27	LIGHTING THE BEACONS	Just Communications
28	LEGAL OVERSEAS' DX	Bob Padula
33	SYDNEY SCENE	Steve Griffin
36	FACTS ON FILTERS	Staff
40	BACK TO YOU	Reader's letters
42	OUT WEST	Don Stewart
46	QUEENSLAND SCENE	Rod Fewster
48	UHF NEWS & HAPPENINGS	Greg Towells
51	SUPER LION Mk II	Staff
57	NEW KIWI CHANNELS	David Flynn
59	SUNDOWNER UH-007 REVIEW	Staff
60	SCANNING AROUND	Richard Barrett
61	HOW'S DX	Where the skip is.
64	DX FORECAST	Staff
66	CLUB NEWS	G. Cotterill

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ON CHANNEL

WE'VE BEEN AROUND A LONG TIME

CB Action magazine has been around for a long time — since 1977 in fact — and the fact that it's still on the market and selling well proves there are still plenty of people out there who want to read about it as well as talk to the world at large.

A lot has happened since our first issue.

When that one was published we were threatened with all sorts of legal action for daring to print a magazine which appealed to "pirates" — operators running all sorts of radio equipment on frequencies they weren't allowed to use . . .

In those (and earlier) days you were legally allowed to buy CB rigs, but, you were not legally allowed to do anything with them — not even listen!

Sure, it was a ridiculous situation and most everyone ignored it, however, if you were busted you were busted in a BIG WAY.

Many of the old pirates would still prefer this arrangement to the current chaos which has foul-mouths often wall-to-wall across the channels and AM operators sitting on everything from 1 to 40.

Those early days had an element of "sticking it up" the authorities and you never knew whether the knock on the door might herald the arrival of a number of burly gentlemen intent on damaging your bank balance and seizing any and all illegal equipment found on the premises.

TIMES CHANGE

Times change, however, and CB Action has changed with them.

Of recent times we have introduced sections on scanners and devoted more space to UHF activities and in this issue we are again broadening the magazine's scope by commencing a regular section devoted to short wave listening or, as it's more commonly known, SWL.

It's an interesting and often exciting form of DXing and the increasing number of enquiries we are receiving about it have shown there is a growing interest by CBers in listening as well as talking.

Another reason for the increased interest is that high quality communication receivers capable of bringing in stations from all over the world are now readily available and, while certainly costing a lot more than an AM/SSB rig, they are broadening the horizons of many a CBer.

We're also introducing a lot more in the way of articles and reports on CBing in general — all you need to know about power microphones, installing a mobile antenna properly, antenna reviews and how to build your own, what happens when the SWR goes through the roof and how to get it right in the first place — in other words, information that is both entertaining and/or necessary.

Another section which is being reintroduced after a lengthy absence is the propagation chart.

This will show you when atmospheric conditions are likely to be best for overseas DXing.

. . . and there's plenty more.

We think that you'll find this and following issues to be better than ever — we hope you agree.

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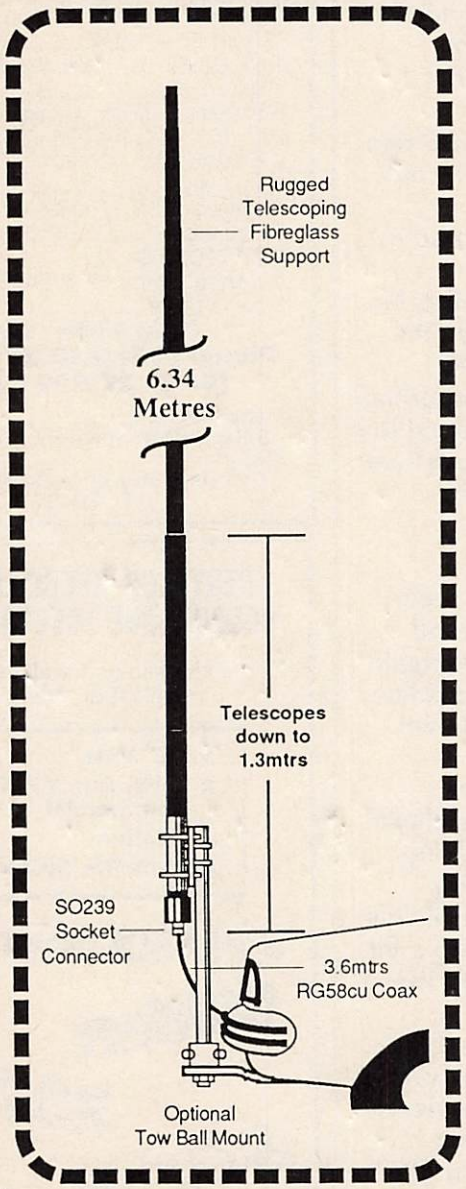

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FEATURES

TYPE	VERTICAL 5/8th WAVE
ORDERCODE	SC27
LENGTH	1.3 to 6.34 MTRS
WEIGHT	1.53 KILOS
TUNING	FACTORY PRETUNED
FREQUENCY	26.5 ~ 28 MHz
IMPEDANCE	50 OHMS
MAX.POWER	100 WATTS
TERMINATION	UHF SO239 SOCKET
PATTERN	OMNI DIRECTIONAL
APPLICATION	STATIONARY MOBILE
VSWR	≤ 1.5:1 OVER 1.3 MHZ

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SKIPCHASER

·LOG BOOK·LOG BOOK·LOG BOOK·

MOBILE ONE SKIPCHASER

Mobile One has done it yet again.

The company, which has been operational since CB radio first arrived in the country, has come up with a major advance in portable antennas — not just your average helical whip shortie — but a monster which measures 21 feet in overall height and is virtually guaranteed to work whatever you hear.

Named the "Skipchaser", the antenna was developed by two CBers — Phil (Pathfinder One Zero) and Rob (Pathfinder One Twenty Six) — and is being marketed by Mobile One.

Being skip-chasers from way back, Phil and Rob begrudged the skip they missed when away from home base, but instead of simply grizzling into their Fourex about it, they got together to design something which would be as good as a base antenna and could still be transported around the country in a car.

It is made from fibreglass and it packs down to only one metre long and fits into the boot of a car.

A major problem with previous attempts at an antenna of this type is that one made from aluminium can be a definite health hazard if it comes into contact with overhead power lines.

Also, if made from metal, the weight proved to be a decided negative whereas the lightness of the "Skipchaser" means that it can be carried and assembled by the XYL or young harmonic.

This antenna is lightweight, completely portable and easily erected.

There is a special boot mount which fits onto the tow ball (or other bracket if you do not have a tow ball on the car) and all the wires are sealed within the antenna — a good idea if you're in a coastal area.

Naturally enough, the overall standard of construction is right up to Mobile One's usual immaculate level and, if you are interested in further information, you need to ring (02) 603 5000 and speak to Rochelle.

CLUB REGISTER AND REPEATER LIST

Because we are in the process of tightening up the magazine to provide more and better reading, we have decided to leave both the club register and list of UHF repeaters out of this issue (and possibly also the next) while we bring them up to date once again.

Club register forms which have already been forwarded to our Melbourne office have been mailed to Graham Cotterill and, as from this issue, new clubs must register with him — the address is Club Register, P.O. Box 184, Northbridge, 2063.

Much the same applies to the repeater listings.

We have dropped it from this issue while Greg Towells reviews and updates it so all new information should be directed to him at P.O. Box 358, Granville, 2142.

With your help we'll have dead accurate repeater listings and a current club register back in the next (or the following) issue.

OLD CB ACTIONS? ? ?

We have just discovered that we're a few vouchers short for a free MacDonalds or, more correctly, a few issues short for a complete collection of CB Actions.

We are missing issues 18, 35, 38, 41, 43, 44 and 45.

If you can help us out, we're happy to pay $5 a copy or give you a year's free CB Actions for your trouble.

Best if you ring first, however, in case someone else has already come up with the missing copies.

Give Kate Shaw a call on (03) 601 4222 — thanks.

BE WARNED

We only just got to hear about it, but it seems there was a major blitz carried out in the area of West Gosford, NSW in late May with truckies being the unfortunate target.

There was plenty of officialdom on hand with burly gents from the police, Dept. of Main Roads and Motor Transport along with our beloved mates from DoTaC.

Police said that during the two day period of the blitz, 180 trucks were stopped and, of that number, 38 received notices for unlicensed CBs.

Also according to the report, of the vehicles stopped, 93 percent had CB radios fitted and 90 percent were unlicensed.

Police said the maximum fine for an unlicensed CB was $2000 for an individual and $10000 for a company.

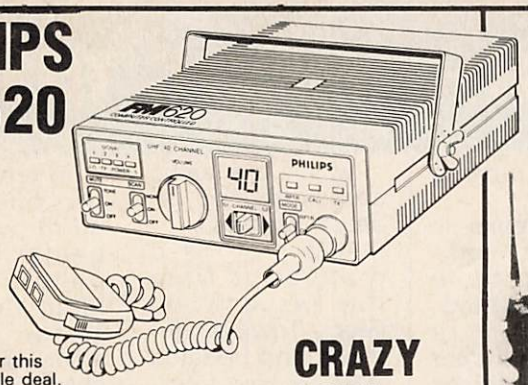
The success (from the police point of view at least) of the operation on the Central Coast virtually assures its repetition in other areas of the state.

READER SURVEY

David Flynn has just about finished analysing the reader survey and the results will be in the next issue along with the names of those readers who won free subscriptions.

Thanks for your input, it will help us formulate future issues.

PHILIPS FM-620



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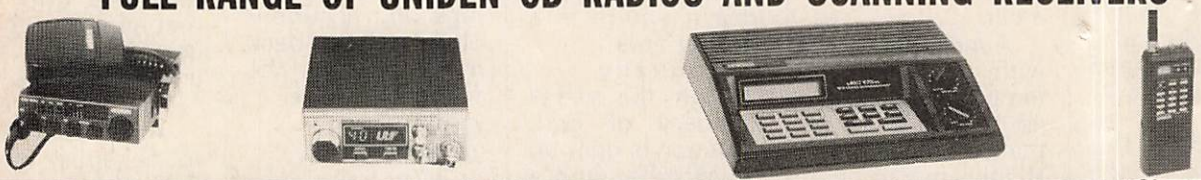
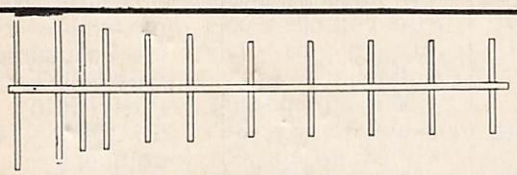


PHILLIPS, UNIDEN SAWTRON, ELECTROPHONE, PALOMAR, ICOM, AWA



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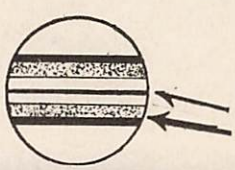

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What to do . . .

UNTIL DoTaC ARRIVES

TVI is the recurring nightmare of every CBer. If you haven't caused any to date you're one of the lucky ones (or very careful) — the following article might help you overcome your problems. If not, it will at least give you something to do while you're awaiting the RIs arrival.

From time to time the operation of authorised radiocommunications transmitters can cause severe interference to nearby audio frequency equipment.

Radio Transmitting Stations in Australia are authorised under the Radiocommunications Act and Regulations and their technical operation is closely supervised by the Dept of Transport and Communications.

Stations which may cause this type of interference are nearby broadcast, television, amateur, citizen band and other radiocommunications stations.

The latter stations, are established by a wide variety of services such as taxis, carriers, Gov't departments, etc.

Many of these stations are established in closely settled suburban areas thereby creating conditions necessary for interference to occur.

When a radiocommunications transmitter causes interference to the reception of radio and TV stations, or to other radio services due to a malfunction, it may be directed to suspend transmission until it is repaired or its conditions of operation is varied to overcome the problem.

Modern radio and stereo equipment is constructed using methods which, whilst giving good sound output performance, are prone to the pick up of external radio frequency (R.F.) signals.

Pick up in power leads, speaker and input leads, as well as direct penetration by R.F. to the element leads of transistors or integrated circuits on printed circuit boards can occur.

The following notes may assist designers or servicemen who are confronted with this problem.

Power Leads:

Once believed to be the main source of entry of stray signals into the audio system, however only a small number of cases will be encountered with solid state equipment.

Where possible direct earthing of a unit, to a water pipe or similar as well as via the mains earth, may be required.

A Mains Filter may assist and may in addition reduce audio 'plops' when light switches and other appliances are operated in the house.

Sometimes the simple installation of a 'delta' connected capacitor combination across the input to the transformer primary will be sufficient to prevent R.F. entry along the power cord.

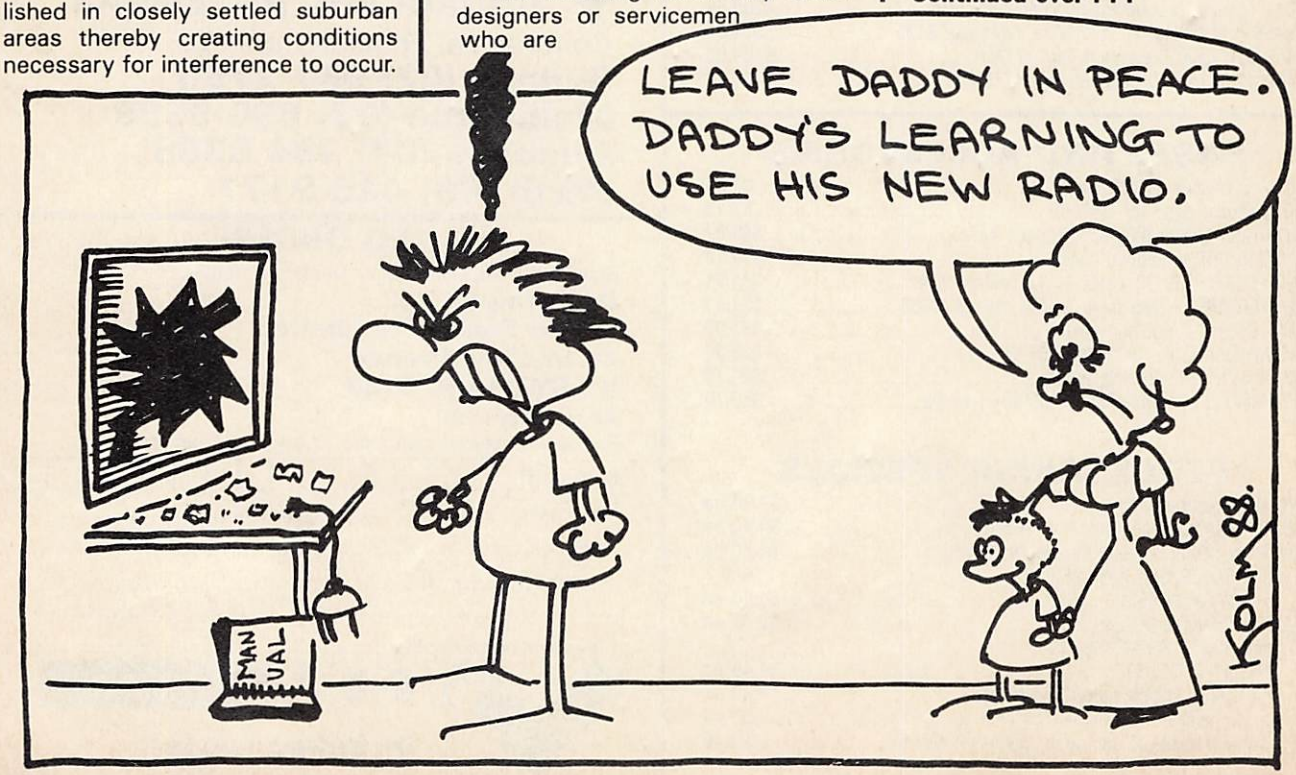
If additional filtering is required, inductance may be added to the filter by winding the excess power cord a number of times around a ferrite rod or through a ferrite ring.

N.B. suppressor capacitors should be of an 'x' (across the supply) or 'y' (supply to earth) grouping to ensure a safe installation.

Output Leads:

Long open speaker leads are good aerials and will conduct R.F. back into the area of the sensitive pre-amplifier circuits, where it is rectified and amplified.

Continued over . . .



PROFESSIONAL ANTENNAS FOR CB!

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CB1100 76cm centre loaded whip	$19.00
CB1200 106cm centre loaded whip	$24.00
CB1300 152cm centre loaded whip	$28.00
TTK Twin trucker (2 x CB1100 + phasing)	$104.00
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UHF CB MOBILE ANTENNAS

CB400 s/steel ¼ wave unity gain	$6.00
CB402 flexible antenna, unity gain	$6.00
CB409 4dB gain Fibreglass whip	$18.00
S240B 4dB gain Stainless Steel whip	$18.00
GRN/Y 4dB Ground Independent whip	$42.00
OW5-450 "On Window" 3dB antenna	$134.00

COMBINED 27MHZ/UHF ANTENNAS

CB420 107cm whip unity gain 27MHz, 4dB @ 477 MHz	$25.00
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(Continued)

What to do . . . UNTIL DoTaC ARRIVES

The use of a series inductance (by winding the leads around a ferrite rod or through a ferrite ring) in each speaker lead will effectively block any incoming R.F. signals.

The use of by pass capacitors wired across each speaker lead (.05 MFD ceramic disc) may also be necessary, (some amplifiers become unstable with capacitive loads, so a check for supersonic oscillation should be made in this case).

In transistorised audio equipment the need for intimate shielding of all circuits is reduced, providing that the A.C. hum field of the power transformer is made insignificant.

As a consequence it is not unusual to find input leads from pickup heads that are not shielded.

Changing input leads from all sources, radio tuner, record player, tape deck etc, to shielded wire with appropriate attention to earth and bonding aspects can help in some instances (all input earths should be kept as physically short as possible or bypassed to the chassis earth by a .005 MFD disc ceramic cap), R.F. bypassing of the input terminals of the printed circuit board (P.C.B.) with .005 MFD disc ceramic capacitor, or use of series R.F. chokes in the input leads or the shields is often of benefit. (The latter can be achieved by winding the input lead around the ferrite rod).

It may be necessary to bypass transistor base leads on some stages.

Overall Effects:

With input, output and power circuit entry reduced to a minimum, any remaining R.F. pickup if it still exists, is by direct penetration to internal circuitry.

If it is found that the R.F. is being rectified by an item on the P.C.B. it may be possible to shield the area affected with aluminium or tin plate.

Otherwise it will be necessary to locate the sensitive component and apply appropriate suppression techniques. A signal generator and probe can be used to achieve this.

Since it is difficult to lift components from a P.C.B. to install series filters, bypassing techniques are most readily applied.

Where possible the use of small ferrite beads on transistor input leads will help to provide series impedance to the passage of R.F.

Radar Interference:

Airport radars, ship radars and other similar pulse transmissions sometimes influence nearby television or radio transceivers.

The above techniques are sometimes applicable, however, the use of brick walls, aluminium foil, etc, as impediments in the penetration of the radar beams is also successful.

The worst cases of interference from radars occur where the radio equipment is in direct view, through glass walls or windows, to the radar scanner.

Complete metallic screening of the chassis of the radio systems has, however, been necessary in extreme cases.

If you are having any problems of the above nature you should telephone your local Department of Transport and Communications who will advise you further in respect to what should be done. Their number is listed in the Government section of your telephone directory.

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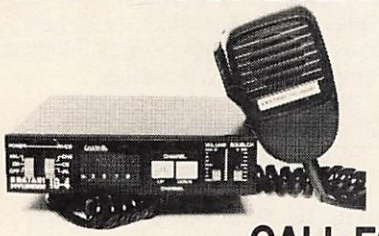

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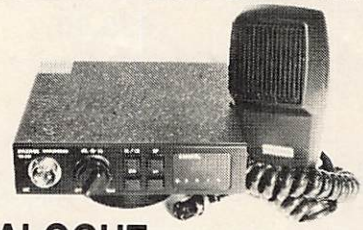

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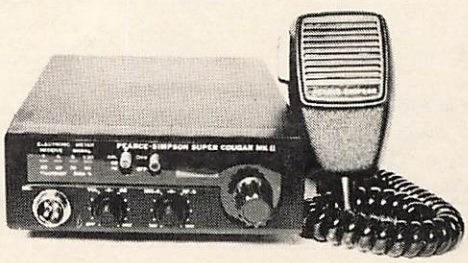

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David Flynn explains how a

UHF RIG IS DESIGNED and BUILT

Standard Communications has just released their latest — and best — UHF rig, the TX-472S.

In the following pages we take a look at how this Aussie rig is built and how it performs under test conditions.

Even better — if you want a chance to win one of these great new rigs have a try at this month's Wordmaze — elsewhere in the magazine.

I was thinking about getting a new UHF radio anyway. Something with scanning would be handy on those country drives, and the chance to lock-out selected channels would be nice. Maybe a priority? No, there just isn't a 477MHz rig round which can do all this.

Well, there wasn't until last month. There were a few radios which together, could do what I wanted. But it wasn't until Standard Communications released the TX472S that you could buy one radio to do it all.

Contrary to what you may believe, CBA journos don't get free rigs. We don't get free anything, not even a subscription to the magazine (how about it, Len? DF). So when we want a radio, we buy it like anyone else.

I called Alan Stehr, General Manager of GME-Electrophone, to reserve me a rig. Alan went one better — he asked me to come by and watch my radio being built, from bare board upwards.

I arrived at the well-appointed offices of Standard Communications the next morning. Both Alan Stehr and Alan Nicholson (the company's chief engineer, and designer of the TX472S) were to be my gracious hosts and tour guides.

So when do you start planning a new UHF CB radio? Not just a facelift, but a new concept, a fresh design brief, to be entirely built in Australia.

The TX472S was on the drawing board at Standard Communications as early as April last year, before the fire which gutted the top floor of its head office in Gladesville.

At this stage the TX472D (featuring dual-watch function) had only recently started production. Faced with complete loss of the accounts, manufacturing, servicing and engineering departments. Standard Communications re-located to nearby premises and continued operations while the building was renovated.

The top floor is now devoted entirely to engineering, production and service — a light, comfortable and friendly environment where the TX472S began anew. Alan Stehr describes the process.

PLENTY OF FEEDBACK

"Our dealers gave us a lot of feedback, based on what their customers had told them. We have a tremendous amount of input, from dealers and our own engineers and staff, and all of this was used in a series of meetings to fully develop the S.

"Once we got our basic prototype working we handbuilt five more and sent them out to some of our dealers, who gave us reports on their ideas about the radio. So what we have here is a design which hasn't been done by a group of Japanese engineers sitting down in isolation and only communicating back with more engineers."

The initial design stage used two computer-aided design (CAD) systems, which also generated the artwork for the PCB and component layout. At $25,000 each, this represents just part of a total bill of well over half a million dollars spent on design, manufacture and testing equipment by Standard Communications.

My radio started as a printed circuit board, nothing more — a sheet of fiberglass with the intricate artwork designed on computer. It was 10.12am.

ROBOTICS

The board moved along steel rails into the Yamaha surface-mount assembler, the arms of the robot swinging into precise action.

With smooth, sharp motions, a small head on the robot leaves a pink dot of glue where each component is to go. This will hold the device in place until the soldering stage.

The glue head swings away, and abruptly another two heads start their work, picking miniature components off reels and depositing them into their assigned places on the board.

The entire operation of the robot is driven by a program specially designed for the TX472S. The movements of each head and placement of component reels have been calculated so that maximum speed and efficiency of motion is obtained. As the robot carefully picks its way along my radio's board, Alan Nicholson describes the benefits of surface-mount technology.

"As far as RF goes, the first advantage is consistency of performance. You don't have variations in length of component leads or height from the

continued over. . .

THE STANDARD COMMUNICATION'S PHILOSOPHY

"Our whole starting point was the emphasis on the microprocessor and the intelligence that could be built in to it and the radio. This also allowed us to do away with the separate dual-watch board used in the TX472D, and so we could reduce our total component count, reduce the amount of wiring, and put in a lot of features which you normally wouldn't get.

"This was then developed as far as we could within the simplicity of a design which allowed for only four buttons to control all this," says Stehr. One philosophy of Standard Communications' founder Ted Dunn is the old KIS principle — 'keep it simple!'

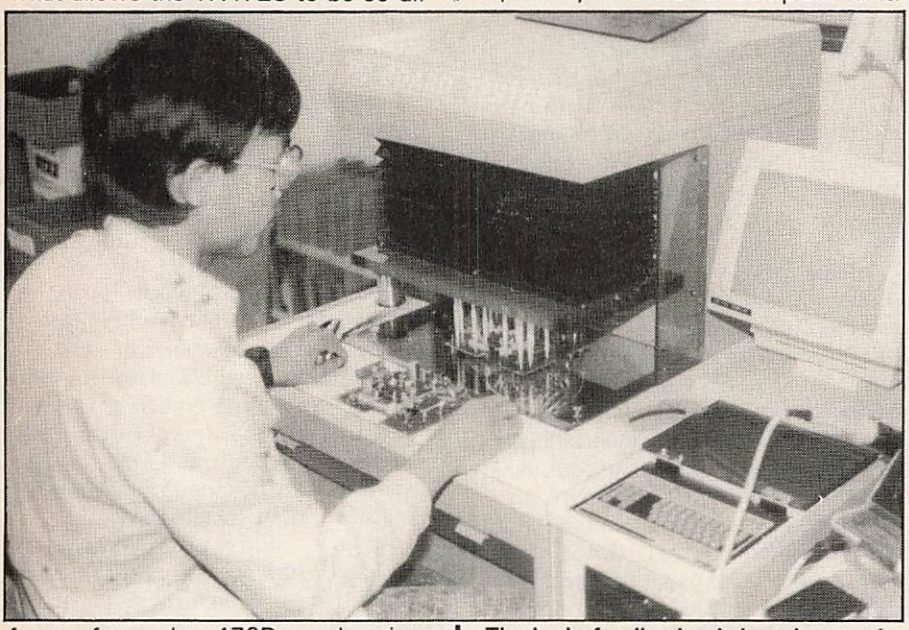
"So we would look at the TX472S and try not to over-engineer or over-complicate the operation. Because a lot of the users aren't CB enthusiasts, they're using UHF in a true work environment as nothing more than a two-way radio."

ELECTROPHONE
(continued)

board, which eliminates problems like unwanted inductance. And using a machine like this, you get a very high speed in assembling radio at this stage, less than 2 secs per component, and no errors. And being smaller components, vibration doesn't affect them as much as regular discrete devices."

At 10.20am, the main PC board, now dotted with tiny components, slides out of the robot womb and under an arc of ultraviolet lights. For the next ten minutes the UV rays set (or 'cure') the glue.

At the same time a second board, that of the radio's advanced microprocessor, emerges from the second SMD robot. Alan Stehr claims this is what allows the TX472S to be so different from the 472D, and unique amongst UHF CB radios in general.



The bed-of-nails circuit-board tester in action.

TOP LOADING

The next step is 'top-loading', where the discrete components are placed onto each board by a team of workers on the line. The leads for each piece are pre-cut, and this stage takes another eight minutes. The human and robotics elements are evenly balanced, so that as my board leaves the line another takes its place.

SOLDERING

At 10.30, my radio looks about to meet its doom. Resting on a pair of rails it crawls into the belly of the wave-soldering machine — two rotating drums, spinning in quicksilver motion which reach up to 250 degrees celsius. For $50,000 of state-of-the-art electronic assembly apparatus, it's also nice and warm to huddle around on a cold morning like this. But things are about to hot up for the little TX472S board, as well.

A brief coating of flux prepares the board for the high-quality soldering and temperature increase which will follow. An unruly 'bubble-wave' splashes solder onto the underside of the board, and then a smooth wave pulls it back over the joints.

The ordeal is over in less than a minute, and is followed by a visual check of the board. Looks okay, clean solder joints — the computer-controlled 'bed-of-nails' circuit board tester (no spare change from $70,000) confirms that it's a healthy bouncing baby UHF CB. a bit premature, though.

The microprocessor and front panel circuit boards are also tested, both separately and as a complete unit. They join the main board on the assembly line at 10.38am.

LOOKS LIKE A RADIO

Now it really starts to look like a radio. On goes the LED display module, front and rear panels, VCO, and power module. Each line worker specialises in one area, making sure that the work is done right the first time. At 11.41, the top and bottom covers are fitted.

Meanwhile, Alan Nicholson explains his own ideas in the design of the TX472S.

"One refinement is that when you power up the radio from cold, all the 40 channels are in for open scanning, but none are in for priority scanning. Most people are at least familiar with the idea of scanning — you press the button and the radio scans through all 40 channels.

DIFFERENT FEATURES

After all, he reasons, not everyone wants the same features in a UHF CB radio. A farmer may want the priority feature for his working channel, or the local fire channel. Or an enthusiast, who is mobile, may want to listen around the band for simplex operators and repeaters, and so they use the open scanning mode.

But, as Alan points out, in the city you may want to skip the repeaters, so there is a need to lock them out — from any one repeater channel to perhaps all of them.

"We really designed the TX472S to be as easy to use as possible, with a tree structure. With the scan button out, it's a straight UHF radio. Put the scan button in, and you then choose group or open scanning, and so forth. So these are the main features of the TX472S, the scanning and the flexibility."

TESTING

Second last stop for my radio was a test station, one of four which thoroughly checks every TX472S before it leaves the warehouse. Standard Communications chose a computer-linked Marconi signal-generator, complete with PC and disk drive, as the heart of each station — $30,000 worth of test gear which runs a locally-written program on specially-designed interfaces.

My TX472S is put through the paces. If it fails any one test, the system will not advance to the next step until the fault is rectified. Only at the very end, having been given a clean bill of health in every single test, will the computer allocate a serial number to the radio.

It passes! My radio now joins the growing number of TX472S models whose test results are stored on the mainframe at Standard Communications.

From the test station to the packing room — a white-gloved lad cleans any finger-marks from the rig, gives it a quick shine and seals it in the plastic bag. It is tucked into the cardboard box, along with the accessories — mike, power cord and mounting bracket, handbook and warranty card.

At a little after noon, my TX472S could easily be any of the hundreds in displatch to retailers across Australia. Alan Stehr tells me that production is in high gear, and every store is taking as many radios as possible.

Testing the new Aussie. . .

ELECTROPHONE UHF TX-472S

Standard Communications has long been one of the leaders in the field of UHF CB and, good as the TX-472D has been, the new TX-472S is considerably better.

It has a number of new features and technical innovations, all of which means good news to the UHF fraternity.

You would be excused for confusing the new Electrophone TX-472S with its predecessor, the TX-472D, as the physical appearance has hardly altered at all with this new rig.

First impression is that of no change, however, comparing the two rigs side by side it becomes apparent that the press-buttons have been switched around and that a fourth button has been added to the TX-472S line-up.

The microphone also has the addition of a black press-button on the top right hand corner of the case. And, apart from some changes in the labelling of the functions, the cosmetics of the new radio appear identical to the last model.

The rear panel view is also unchanged except for a third wire emerging with the power leads. These minor outward changes offer little indication of the total redesign that has taken place internally.

The TX-472D used a single sided circuit board with a multitude of wire straps and a sprinkling of the new 'Hi-tech' Surface Mounted Devices (SMD).

A number of features of the main board appeared to be after-thoughts with little shields and earthing points tacked on here and there, however, all things considered, the final result was quite pleasing.

The TX-472S employs the same front panel and metal work for the case and chassis, but almost everything else has been up-dated.

The new rig uses a double sided main circuit board — printed wiring on both sides of the circuit board — where the most bulky, conventional type components' leads are inserted through holes in the board and soldered on the underside leaving the component body itself secured on top of the board.

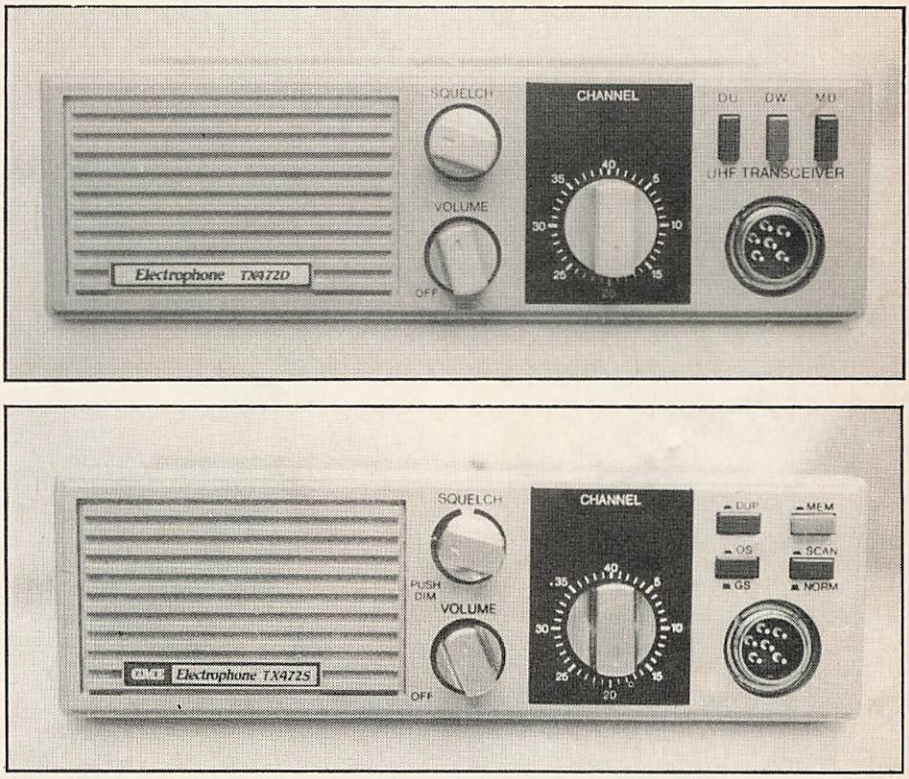
The surface mounted components, on the other hand, are firstly positioned and then glued onto the underside of the board before being soldered in place. The close-up pic (over-page) 3 shows the SMD's size relationship with a 5 cent coin.

Inserting electronic components into circuit boards has always been a slow, laborious business with high labor costs because of the time consumed in 'loading' anything up to 1,000 or more components. SMDs are generally tiny and uniform processing. Robot arms controlled by a computer reliably locate the components in place with uncanny accuracy at a speed that defies any human ability.

What's more, the robots don't usually make mistakes or 'knock-off' for 'smoko and a cuppa'.

The end result is that you the customer gets the best value for your communications dollar — a technically more advanced rig without extra built-in labour costs.

continued. . .



Top: The TX-472D and underneath it the new TX-472S.

Some readers will probably wonder why such tiny components like SMDs are used in a rig that is easily large enough to accommodate the conventional size components. The main reasons are assembly time and economics of manufacture, which are closely intertwined with each other.

RIG REVIEW

TX-472S
(continued)

THE CANS ARE GONE

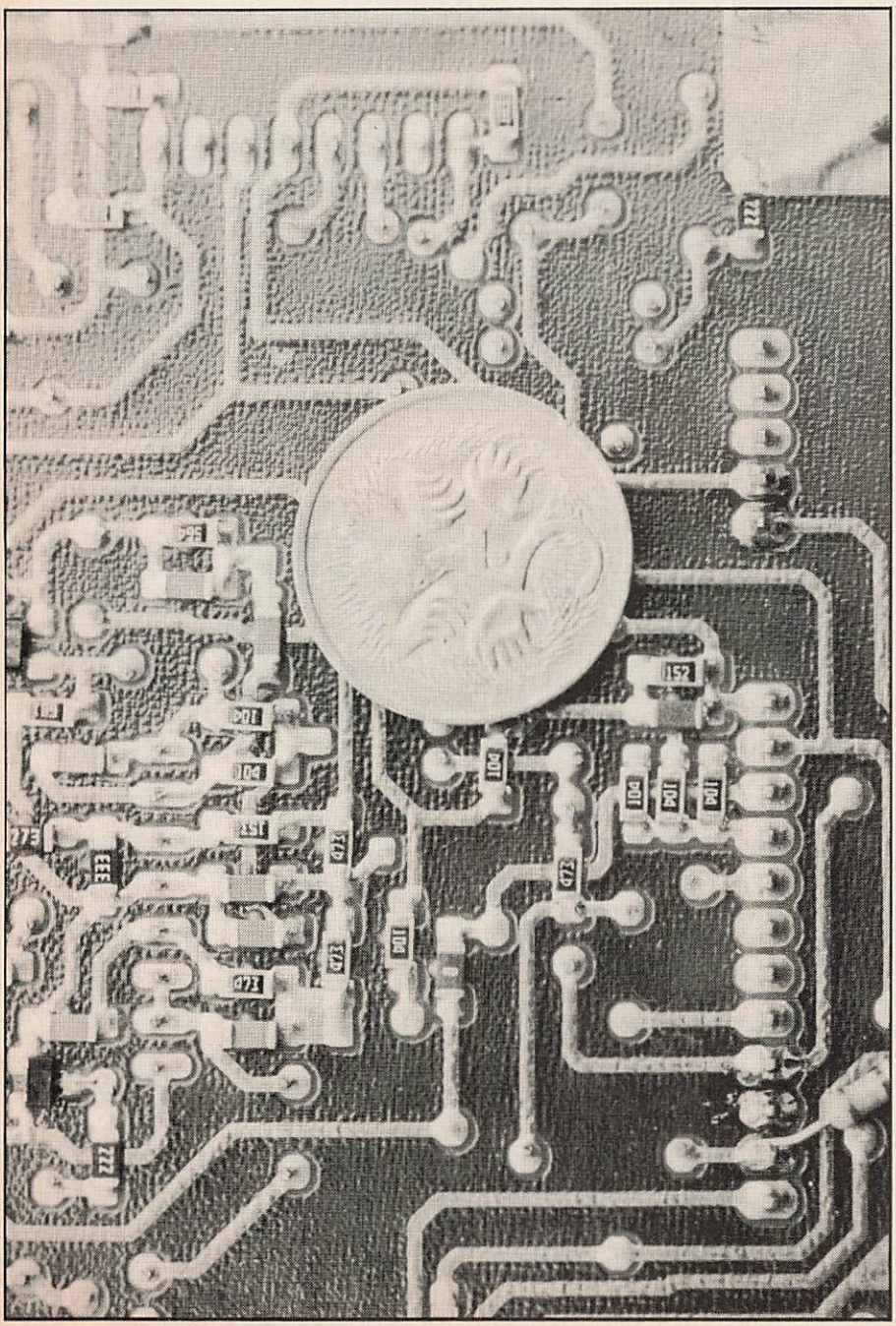
An interesting feature of the TX-472S is the absence of the little resonator cans — which are a characteristic part of the receiver in all current UHF CRS radios. Check the technical comments about this feature later in this review.

Installing SELCAL in the old set is a bit fiddly and required the partial removal of the front panel. The new rig rectifies the problem with its convenient placement of the relevant connector.

DECIDED IMPROVEMENT

In all fairness, the TX-472S is a decided improvement in layout with very little in the way of after-thought 'add-ons'.

Now to the interesting new features which are an unusual combination of mechanical and electronic expertise that blends both worlds pleasantly together. The old forty channel mechanical selector switch is retained in combination with a microprocessor which takes care of some clever electronic switching for scan groups and memory functions. The DUPlex/SIMPlex button performs its usual task, however, the other three buttons relate to the new scanning functions. Leaving the SCAN/NORMal button in the NORM position allows the operator to manipulate the radio with complete manual override which excludes all reference to the scanning functions. The operator by rotating the switch can select channels as fast or slow as he or she fancies. SELCAL, if fitted, is also operated normally by a button atop the microphone.



SCANNING

The TX-472S has two scanning modes — Open Scan (OS) and Group Scan (GS).

Open Scan allows you to scan to 40 channels in ascending order. Group Scan permits the use of a priority channel while scanning a selected group of user programmed channels. Either scan configuration permits grouping of selected channels from 2 up to the whole 40.

At any time new channels can be added or deleted from the group simply by restoring the radio to the NORMal mode and depressing the MEMory button for about 1.5 seconds.

The M (for memory) light will be lit or extinguished as the channel is either added or removed from the group, the operation is accompanied by an audible beep as the memory state changes. For example, to remove channel 17 from the group, turn the selector switch to ch 17 — the 'M' light will be lit.

Press the MEMory button and hold until the beep is heard — the MEMory light will be extinguished and channel 17 will be removed from the scan sequence.

To restore ch 17 simply press the MEMory button again until the beep signifies the 'M' light is again alight.

In this way any of the 40 channels can be added or deleted at will.

In the GS (group scan) mode the scanning continually searches for activity on a user programmed PRIORITY channel as the prime function of its operation. The priority channel is selected in a novel way by the mechanical channel selector switch.

If the switch is at ch 17, then channel 17 becomes the priority channel.

Rotate the switch and the priority channel tracks accordingly — well done Mr. Electrophone.

There are a number of variations to the scan functions which we will not attempt to cover here, however, it is sufficient to say that maximum use has been made of few buttons. The sequence of button operations will take a

Right: The 472S quick reference operator chart will make life somewhat easier.

it of practice to properly grasp but it hould not be beyond the average person's ability.

The squelch control now incorporates a PRESS function which is used or two levels of brightness to the display — quite handy for night time driving or for use in a darkened room.

The third wire (mentioned earlier) in he power wire loom is a memory backp wire that is normally permanently onnected to the 13.8 volt supply. This s OK in a vehicle, however, it means hat a radio used as a base station is at omewhat of a disadvantage requiring hat the power supply be permanently urned on.

The internal 'backup' system is sufficient to retain memory for at least 12 ours.

Electrophone supply a self adhesive abel summarising memory and scaning operations in a series of diagrams nd brief notes. The label is reproduced ere.

PERFORMANCE

The handbook claims 5 watts output t 13.8 volts supply voltage — our meer showed 4 watts at 13.8 volts and ve had to increase the line voltage to 5 volts to get the prescribed power n our test unit.

As with most UHF CB transceivers he output power is quite sensitive to ower supply voltage changes and reducing the supply to 12 volts dropped he output power to a whisker under 3 watts.

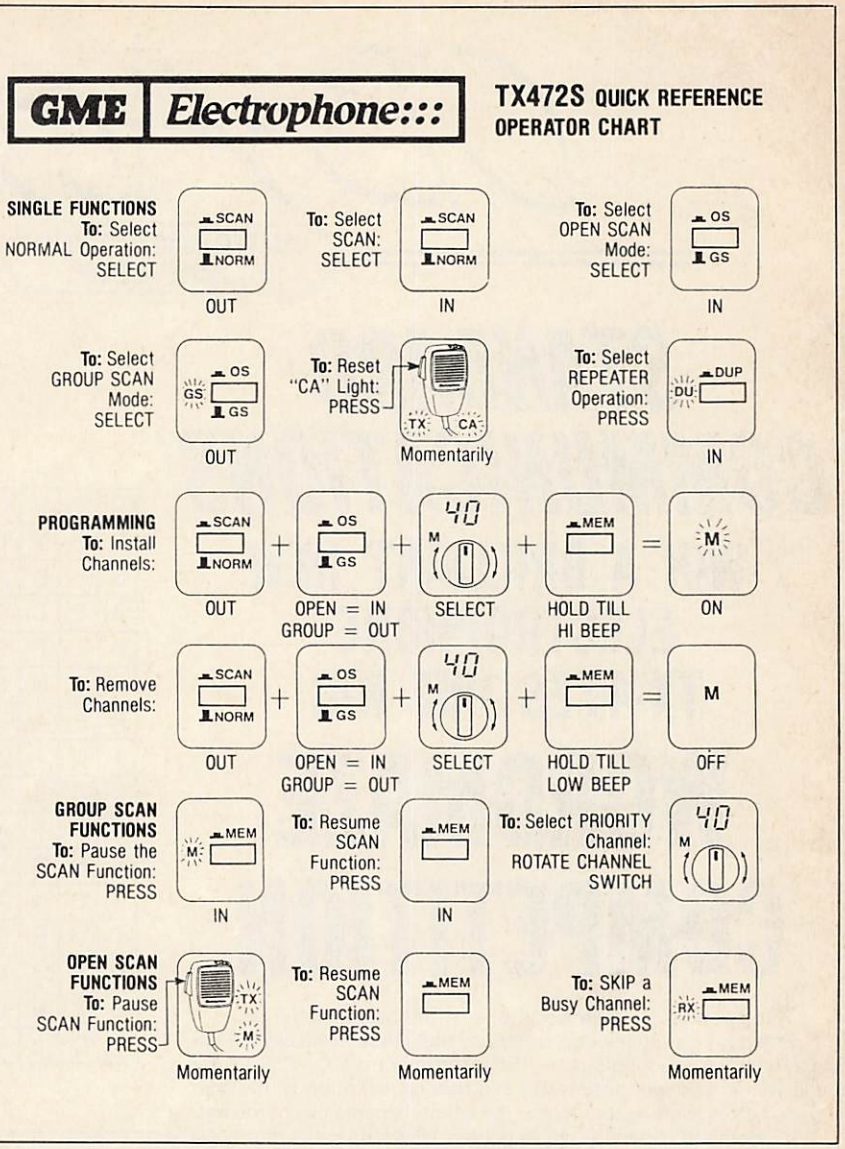
It is quite possible that an internal djustment might have produced more ower but we didn't fiddle.

Deviation (modulation) of the transmitted signal peaked at about 5kHz and emained at a good level throughout a wide range of microphone input levels.

On air reports of the audio were generally good which agreed with our opinon — smooth and not too peaky sibilant) at the high frequencies.

After five minutes continuous transmission the case was quite hot and the output power had actually increased by 0.2 of a watt — we expected it to go the other way.

Frequency accuracy was good and there was no noticeable change during the 5 minute test. Often heating of the radio's case will cause some drift in



frequency but not with the 472S.

The instruction manual tells us that the receiver performance of 0.35 microvolts for 12dB SINAD is exceptional — an unqualified statement to say the least.

We found the sensitivity to be even better than claimed at 0.3 microvolts for 12dB SINAD which is quite acceptable.

The front mounted speaker offers good audio but not what one might call well rounded sound because of the physical limitations of such a small speaker.

Leaving out the 'little cans' or resonators (mentioned earlier) has not made any real difference to the receive performance — or not that we could tell anyway.

The adjacent channel performance and the out of band rejection remained relatively unchanged between the two models.

SUMMARY

The Electrophone TX-472S offers a range of new features at no increase in price — this alone has to be good value. It is a good all round performer neatly packaged and attractively styled.

The antenna fly lead allows the rig to be mounted in tighter spaces than most of its competitors.

The scanning features make the 472S most attractive to hobbyists, but probably a bit 'Ho Hum' to more commercially oriented users who are not likely to use the facility.

The hobby market also favours some type of signal strength indicator which is now absent from current series Electrophone UHF rigs.

The radio is manufactured in Sydney Australia by Standard Communications Limited who have to win the Brownie Points for producing a competitively priced, quality product in Oz.

CB ACTION
AUSTRALIA'S ONLY CB MAGAZINE

STANDARD COMMUNICATIONS

WIN A BRILLIANT NEW ELECTROPHONE TX-472S UHF RIG

WORDMAZE COMPETITION

This month's competition is one of the bigger ones.

Standard Communications Pty Ltd has made available the latest in UHF CB technology — the Electrophone TX-472S — for the winner and we're throwing in a free subscription to the next three correct entries that follow the winner's name out of the hat.

It's not hard to win — we've hidden 10 words in the maze, the answers to which can be found in this issue of CB Action.

The answers can run in any direction — horizontally, vertically, diagonally — and also back to front.

Find the ten words hidden in the maze and post your entry to:

CB ACTION/STANDARD COMMUNICATIONS
WORDMAZE
GPO BOX 628E
MELBOURNE, VIC. 3001

The closing date is September 5 and the winner will be selected from all the correct entries received by that date. The draw will be conducted in the offices of CB Action and the results and solution will be published in the next issue of CBA.

The winner will be notified by mail.

1 Bob (surname ?) wrote the short wave listening article.
2 The chart on page 65 is called a (name ?) chart?
3 Don (surname ?) writes one of our columns.
4 As also does (first name ?) Griffin.
5 Who wrote this issue's 'Scanning Around' page (surname ?).
6 One of the rig reviews is on the Super (name ?) Mark 2.
7 In respect to UHF antennas, GI stand for Ground (word ?).
8 To reduce TVI you would fit a (word) pass filter in the coax line of your rig.
9 What's the name of Mobile One's new portable 27MHz antenna?
10 (Word ?) Communications was involved with the Bicentennial Beacons.

R	D	V	U	M	L	E	A	A	H	I	T	J	Z	A	E
E	H	M	E	K	I	O	O	H	V	M	I	E	J	O	U
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A	E	C	O	E	N	A	I	Q	C	T	A	O	**E**	A	E
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LAST WORDMAZE WINNER

Congratulations to the winner of the last competition: Mr Ron Woods of Manjimup, Western Australia.

It wasn't an easy contest and we opened around 50 entries before we found a correct one.

The correct answers to the clues were: 1 QSL Card; 2 Ionosphere; 3 Skip; 4 Yagi; 5 Rotator; 6 L.S.B; 7 Propagation; 8 Gain; 9 Skywave; 10 DXpedition.

By the time this issue goes to press Mr Woods should have received his three element beam from Argent.

I would like to enter the CB ACTION/STANDARD COMMUNICATIONS **WORDMAZE** Competition. I agree to abide by the judge's decision.

NAME.....

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TELEPHONE NUMBER.....

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Be warned!

ILLEGAL CB PRODUCTS ARE AGAIN AVAILABLE

If you're interested in improving the performance of your rig — and don't mind being a little bit "illegal" the following might well be the best thing you've heard in a long time.

A few years back there was a lot of "on air" talk about a number of products which had slipped, virtually un-noticed, onto the Australian market.

After several months of intense investigation involving not a little danger to our staff we found that these products were being "backdoored" into the country, mainly from Stateside but with some emanating from Japan and Taiwan — and some even from India.

There was a great deal of press speculation about their origins and some legal concern that they might not conform with our own strict laws and regulations.

The products, originally developed by American "pirate" operators, were banned when the authorities in that country became aware of their existence as they contravened many customs and wireless regulations, however, this did not deter the manufacturers who simply went underground and continued to create the products in hidden laboratories.

Naturally enough, the products were quickly also banned in Australia and we have not heard of them for several years — until recently that is . . .

A couple of months back, however, a reader brought a small bottle of "Slider Oil" into our office and asked whether we were aware of its existence.

To say the least we were surprised to see it as it has been many years since it was available, even through underground networks, and we initially assumed that it was a left over from the old days.

Inspection, however, showed us to be wrong as it had a "use by date" of October, 1988.

From past experience, we know that this particular product has a useful life of only about six months and it became obvious that some underground manufacturer(s) is/are again producing this (and as we have since discovered several other) similarly-banned products and marketing them to Australian CBers.

We were going to break this story in our last issue, but, we decided to find out just how widespread the distribution is and what products are available before blowing the whistle.

Through contacts going way back before CB became legal here, we spoke to a number of old "pirates" who we knew had been involved in the original importation of these "DX Aids" and, through them, we found that the importation is being handled by a select few old-time operators who sell only to CBers known personally to them and usually only hand them over at a clandestine night-time eyeball — usually conducted car to car in an empty supermarket car park or similar situation.

Be advised that some of these products are extremely toxic while others can totally destroy a rig or antenna if carelessly used.

If care is taken in their use, staggering results can often be obtained — but — you must adhere strictly to the directions on the container.

We strongly suggest that you read the following article and take note of what is said and, most importantly, if you are offered any of the products be very careful.

They are illegal and are considered by DoTaC to constitute a greater breach of the law than using Ham rigs or linears on 27 Mhz.

A great number of operators were jailed and an even greater number had their rigs confiscated along with collecting fines as high as $10,000 when these products last surfaced.

Having given you fair warning — read on . . .

Slider Oil

This is being widely touted around the traps as providing the ability to slide anything from 10 to 28KHz between channels and, in a number of controlled tests, we found this claim to be essentially accurate. It comes in a 50 mm bottle, is produced in Taiwan and marketed through a number of outlets. However, it does have a number of inherent drawbacks. The first, and probably the major problem, is that strict accuracy must be applied when applying the oil or the actual degree of slide can become uncontrollable. It is also necessary to drill 3⅛ inch holes — one to the left and right and one central above the clarifier or fine tune control. Precisely .055mm of the oil is placed into the hole on the side to which you wish to slide with the eye dropper (supplied with the bottle) and this will produce an accurate 10Hz slide to either right or left — applied to central it will bring the channel back to the correct frequency. It must be stressed that if too much oil is applied, or the bottle is split, the consequences can be severe as evaporation is slow. An example of this was when we had applied 1 mm by mistake and although tuned to channel 14 found ourselves involved in a QSO on channel 18.

However, in summation, slider oil is a definite asset when used in strict conformity with the instructions.

DXelien

This product has long been used by skip workers in the know but its general short supply has restricted the product's popularity. Proven by top DXers throughout Australia, DXelien comes in a 1 gallon container and is applied to the transmitting side of the antenna — if, however, you should apply it incorrectly to the receive side you will find results to be extremely poor as outgoing DX calls are reflected back down the coaxial cable resulting in an excessively high SWR and probable damage to the rig.

When this occurs, the antenna should be completely dismantled and washed down with a solution of eucalyptus oil and vinegar which will completely remove all traces of the fluid. The ratio of eucalyptus oil/vinegar is provided with the instructions inside the 1 gallon container.

AM Fluid

This is another well known import from Stateside which is virtually guaranteed to remove any hetrodyne effect when operating in close proximity with another AM station. Unfortunately during our test procedure, some of this AM fluid was inadvertently applied to an antenna instead of the DXelien and when working SSB we found that it produced AM splatter right across the entire 40 channels — not a happy state of affairs.

QRM Jelly

We recommend this product without hesitation and found that when it is applied to the coaxial cable in conjunction with a 10/100 lowline filter it effectively limits contact on any given channel with only the station you wish to talk with — in short, all extraneous noise and other stations are totally blocked out leaving only you and the other station able to converse with each other. This will reach record sales — if you can afford the price tag of $35 tax inclusive for a small ½ pint can.

Side Band Crystals

Very few of these are available on the market although the CSIRO reports that a small shipment was landed slightly north of Darwin from a Taiwanese canoe several weeks ago. A special crystal is required for each frequency and a separate upper and lower type SSB crystal must be used. They are positioned exactly 8 Hz to the left or right (upper or lower) of the AM crystal and will then convert AM rigs to SSB operation. However, the CSIRO stressed that this was an expensive way of achieving the end result and recommended that it was easier and less costly to simply purchase a SSB rig in the first place.

Calculator Power Supply

The CSIRO was most impressed with this development which can be used by virtually anyone owning a desk type calculator with an input and output power jack. With mains power (240 volt) being taken via the input, a division of 17.391304 is simply punched into the calculator which converts it to 13.8 volts. The operator then presses the minus button whcih converts the power from AC to DC — very simple in operation and obviously a great saving.

Squelch Jell

Tested over a 3 month period on Macquarie Island and obviously works as no stations were copied when Squelch Jell was applied to the hetrodyne factor 10/4 — further tests are now being carried out in the central suburban areas.

Triple dipole antenna

Now being marketed under the trade name of "The Rubber Duckie Do It Yourself Phased Coat Hangers". This appears to be a genuine breakthrough in low cost antenna installations. Consisting solely of two metal coat hangers (not PVC coated) and a ball of number 3 twine, the antenna consistently copied signals from a distance of 8 ft, using only 3 kilowatts of power.

TOMLINSON ANTENNA REVIEW

YAGI FOR 10/11m

One of the better-known names in Australian antenna design and construction is that of radio amateur Werner Wulf, VK3BWW. What a lot of people might not know, though, is that Werner sold his business some six months ago to another amateur, Derek Tomlinson.

This antenna report was originally written for our sister publication Amateur Radio Action, however, because this beam can be adjusted to work on either 11 or 10 metres (the latter being an amateur band), we decided that it will be of interest to CBers as well as Hams.

The factory is located in Assembly Drive, Tullamarine and our first discovery was that there are two such Drives in close proximity.

The first we tried ended in a dead-end (Murphy's Law strikes yet again) and we're surprised that a council can place two identically named but completely separate street names within a kilometre of each other.

Tossing a coin, we picked what we reckoned was the most likely road, only to discover it ended in a dead-end, and looked suspiciously like the wrong one.

There were a number of other surprises waiting for us. Tomlinson Communications, despite its high antenna output, is essentially a two man business, and each and every antenna is literally hand made.

Apart from their overall performance (more on that shortly) the most impressive thing about these antennas is the remarkably high standard of construction. In the case of the 10/11, Yagi at least, the method of construction meant it could be almost completely assembled without tools.

Construction

The boom, of 32 mm diameter, pushes together in the middle and is held in place by the boom/mast mounting bracket.

The centre section of the elements also push together onto a central rotating camshaft which, when turned by a length of round steel bar, firmly locks them into position.

The element end pieces slide into the centre lengths, and are then permanently locked in place by simply turning the nylon locking cups.

Apart from the steel bar needed to lock the camshafts into place, you will require a screw driver to connect the feed line from the driver to the gamma matching device, and a spanner to fasten the U-bolts on the boom to the mast.

Something to keep in mind is that when you order an antenna you should specify the diameter of the mast onto which the boom is to be located.

We didn't — and the antenna came with a plate and U-bolts to suit a 32mm diameter mast. However, another amateur — VK3KEG — came to the rescue with a pre-drilled plate and suitable U-bolts, which he just happened to have in his odds and ends box.

Non-standard mast sizes present no problems, though, if you remember to pass on your mast size when you order your antenna, as Derek can supply whatever size is required.

From the time of unpacking the parts to admiring your fully-assembled Yagi occupies about 40 minutes, and the entire process is virtually foolproof.

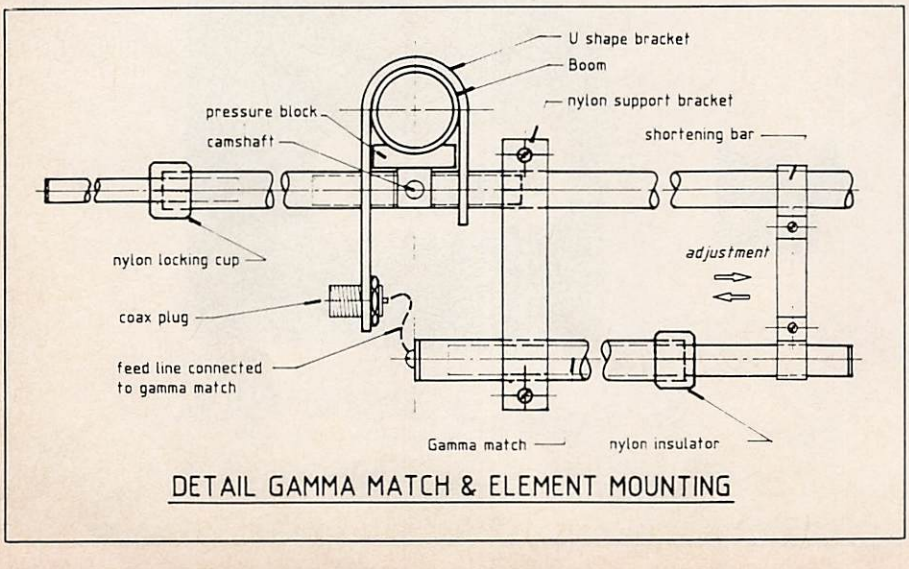
Foolproof? Well, it is provided you read the 50 or so words covering assembly!

For operation on 10 metres the reflector measures 5306 millimetres tip to tip, the driver 5040 mm, the first director 4774 mm, and the second and any additional directors are 4660 mm.

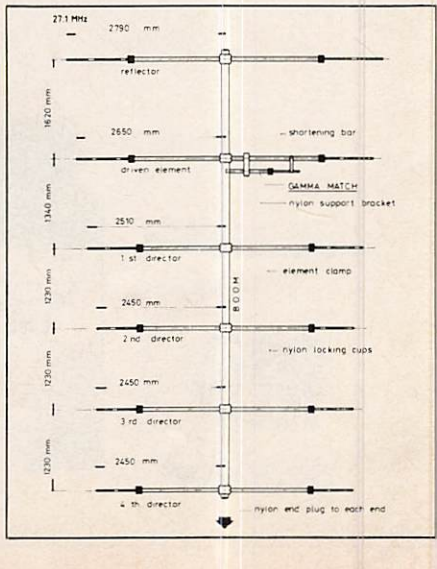
The spacings are: reflector to driver 1540 mm, driver to first director 1274 mm, and director to director 1170 mm. The gamma match device (see Figure 1) is simple to fit and easy to adjust, and for the initial tuning it should be pushed fully inwards.

When tuning, the shortening bracket is moved along the element to the point of lowest SWR, and the gamma capacitor can then be moved outwards to tune to a lower SWR if required.

We were somewhat fearful of what the SWR might be when we winched the Nally tower upright, as the 10



DETAIL GAMMA MATCH & ELEMENT MOUNTING



metre beam was stacked only 5 feet above a wide spaced Hy-Gain five element 15 metre monoband Yagi, and all the experts assured us the space between the two was too small. They said it would detract from the performance of both.

It is also not the easiest of jobs to stack a couple of HF Yagis, and the first attempt ended with two booms way out of line, and the 10 metre job leaning over at an obviously incorrect angle.

Still, they were both back in the air without damage, so impatience demanded a quick rush to the shack to check the SWR of both. Besides, I reasoned, I needed to see how much more work was needed to complete the job.

The 15 metre Hy-Gain was fine at 1.5:1 with a good broad-band spread, while the Tomlinson 10/11m was around 1.7:1 at 28.600, and 1.5:1 on 28.300 MHz.

The tower was laid over again, and the higher 10 metre beam repositioned to look as though it was meant to be there, rather than stuck on as an afterthought. We also took the chance to move the gamma match to where we figured it would give a better SWR reading.

Back in the air, and the SWR improvement was obvious, with the reading at 28.600 now 1.3:1, while at 28.300 it was down to 1.2:1.

Had we really been desperate to get the SWR lower still, I have no doubt it could have been brought still lower, but it was quite low enough considering that any further reduction would have necessitated yet another bout with the tower, a prospect which didn't really fill us with enthusiasm.

It works!

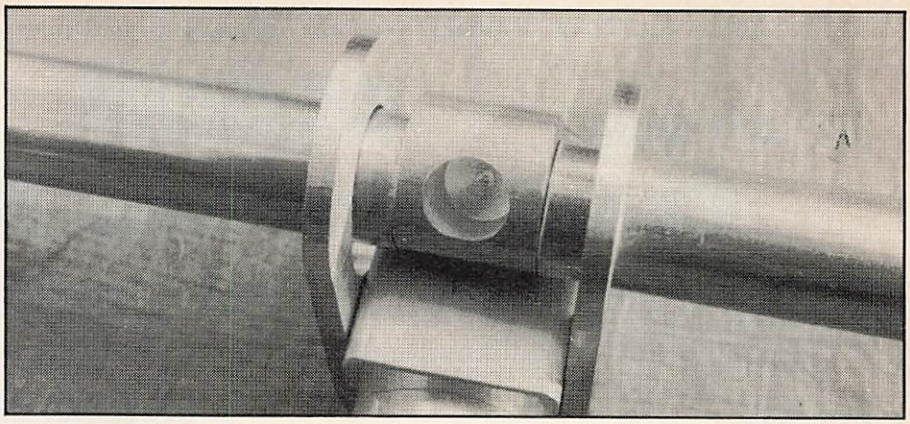
Happily, it was a day of good propagation, and the first contact through the new antenna was to a station in Connecticut on the eastern US coast. Not bad, I thought, from my novice QTH 55 kilometres south of Melbourne.

The return signal report was 5 by 5 which, given the 30 watts PEP I am limited to, was more than acceptable.

The incoming signal was 5 by 9 and, as the other station was running a thousand watts, I was quite happy with the report.

By way of comparison, I switched over to my old favourite, the 10 metre vertical, and the report from the N1 station dropped off to barely audible, while the incoming signal fell to 5 by 5.

Swinging the beam through 90 degrees to make it side-on to the Stateside signal dropped the report to 5 by 0, which is a pretty good indication of side rejection. Front to back rejection was also good, with the report down to 4 by 0.



The unique "cam" method of fastening elements to the boom — all you need is a round steel bar.

None of the tests were overly scientific, but the on-air results were excellent. The following weekend I dropped the tower again to alter the element lengths and spacings to operate on 27 MHz. After some minor matching adjustments, I came up with an SWR reading of 1.3:1 on channel 40, going down to 1.2:1 on channel one.

During the day I received some very big signals from places as widespread as New York and Berlin, plus a heap of Indonesian operators and plenty of Japanese who, sadly did not speak my kind of language.

Using a Super Lion Mk-II which we had on test, we worked a couple of Aussie states with good reports. While the incoming signals from New York and elsewhere were up in the readability five and strength five area, we didn't want to tempt fate by giving them a call.

A nice thing to remember with this beam is that if you ever decide to upgrade to an amateur licence you simply have to alter the tip to tip lengths and element spacings to be working on 10 metres.

11 METRE MEASUREMENTS:

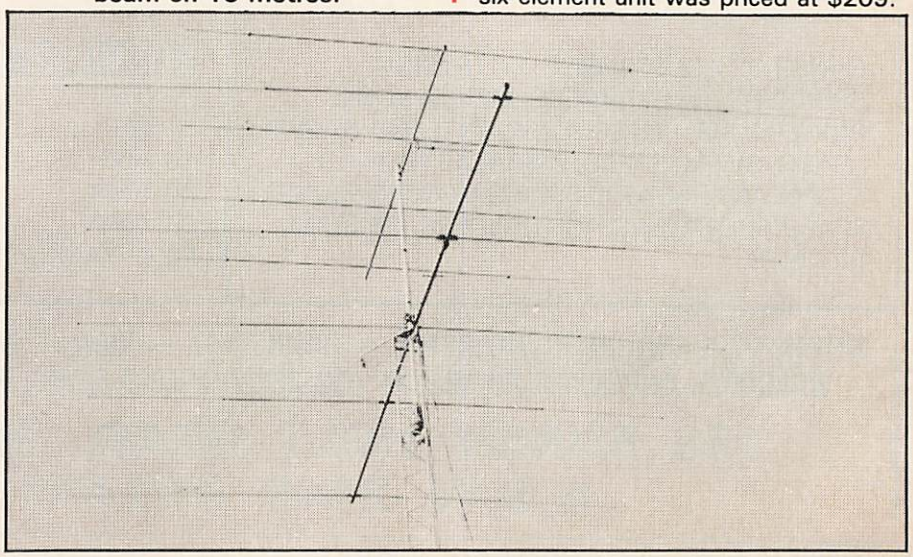
The tip to tip reflector length is 5,580 mm, the driven element is 5300 mm, the first director is 5020 mm and other directors measure 4900 mm.

Spacings are 1620 mm from reflector to driven element, 1340 mm from driven element to first director and 1230 mm between any other directors.

These Wulf/Tomlinson beams are arguably the best engineered you are likely to find anywhere and, if you want to increase the number of elements at a later date, you simply purchase a larger diameter and longer boom and buy the extra elements.

The price of our four element Yagi was a very reasonable $155, while the six element unit was priced at $209.

The 10/11 metre Yagi stacked above a wide-spaced five element beam on 15 metres.



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BEARCAT 145XL SCANNER

The Bearcat 145XL is the latest Uniden scanner to land in Australia and is ideal for both mobile and base operation.

It's priced at around $350 and is essentially a "no bells or whistles" scanner which does its job well.

It would be fair to say that no other company has the variety of scanning receivers that Bearcat has. Every market and budget is catered for — handhelds, mobiles, bases and combinations of mobile/base units.

I must admit I have a soft spot for the Bearcat, it was the first programmable I owned, and it provided many hours of pleasure.

David Smith, of the Sydney CB shop, supplied the latest Bearcat to grace our shores for review. It is the Uniden Bearcat 145XL. The 145XL is one of those combinations mentioned earlier of either a mobile scanner or a base or both.

The new Bearcat is to the 50XL as the 175XL is to the 100XL. If that doesn't make sense, it is a "budget" or no frills model. It has all the necessary knobs and buttons without the flash and fancy. Constructed of high impact ABS plastic it stands, or should I say sits 240mm wide, 63mm high and just under 180mm deep. It weighs in at three quarters of a kilo.

The controls are simplicity itself. Twelve rubberised keys numbered 0 to 9, the decimal point and the "E"nter button comprise the PROGRAM keys. As the name suggests they are used to program the desired frequency into the radio. The "E" keys enter that frequency into the memory channel.

The next group of six buttons are the OPERATION keys. Again of a rubber type material, they control the LOCKOUT, SCAN, MANUAL, REVIEW, PRIORITY and WX functions. The first five are standard with all scanners, the WX key however, is as I have mentioned in my review in the Bearcat 800XL, indigenous to America. The WX key starts the radio searching the seven Weather Bureau channels. The NOAA broadcasts are intended for general public reception.

The type of information transmitted varies from weather reports to hurricane warnings as well as civic defence matters.

The NOAA system uses:

Channel 1; 162,550 MHZ
Channel 2; 162,400 MHZ
Channel 3; 162,475 MHZ
Channel 4; 162,425 MHZ
Channel 5; 162,450 MHZ
Channel 6; 162,500 MHZ
Channel 7; 162,525 MHZ

As I said in the previous article unless one of your favorite frequencies is listed above you can forget the WX key. Dave Flynn mentioned it in his review of the 175XL back in December, 1986, the user would be better served (in Australia at least) if the 156 MHZ marine band was included rather than the NOAA channels.

For those of you who own or have used the Bearcat 50XL handheld scanner, the digital display of the latest Bearcat will be familiar to you. If you are not aware of the 50XL then the display may be a little strange at first.

The 145XL has a 2 digit LED display, which during normal operation indicated the channel being monitored. To check the frequecy of the channel you must use the REVIEW key. This functions displays the frequency one digit at a time for example 1 6 2 — 5 5 0. For those users who do not want others seeing what frequencies are programmed into the set this feature is handy.

MEMORY RETENTION

If for any reason the 12 volt supply is interrupted, memory retention is via an internal capacitor. The capacitor will provide up to four hours memory back-up. This means the end of buying batteries to keep the memory "alive".

Included with the Bearcat 145XL is a power supply delivering the 12 volts required to run the machine. The standard telescoping whip is also supplied. It, as always, provides adequate performance, but cannot substitute for a good outdoor discone or similar.

MID-BAND VHF

The 145XL covers the Australian mid-band VHF (68 - 88MHZ) high band VHF (136 - 174 MHZ) and the UHF band from 406 to 512 MHZ. It has a 16 channel memory capacity which is scanned in about half a second.

For those who buy a radio because of specifications here are a few more. The instruction booklet rates the sensitivity for both VHF bands at 3uV and 5uV for the UHF. Image rejection was good with little or no annoying images, the audio output is quoted as almost a watt from the speaker which is top mounted.

I plugged my SPR "Scantenna XLR" discone into the 145XL and programmed it with a number of the frequencies I use to rate scanners. Some are base stations several hundred kilometres from my shack. Without exception the Bearcat performed as well as if not better than some of the more expensive on mid-band UHF I was able to monitor a fire brigade channel 150 kilometres as the RF wave flies. In the scan mode, when a transmission has concluded, the built in delay holds the channel for five seconds before recommending the scan sequence.

On the move the 145XL coped just as well and did not suffer from ignition noise. However this may vary from vehicle to vehicle. The Uniden Bearcat 145XL is priced around the $350 mark and is a welcome addition to the Bearcat line.

Thanks to Dave Smith, of the Sydney CB Radio Centre, for the loan of the rig for review.

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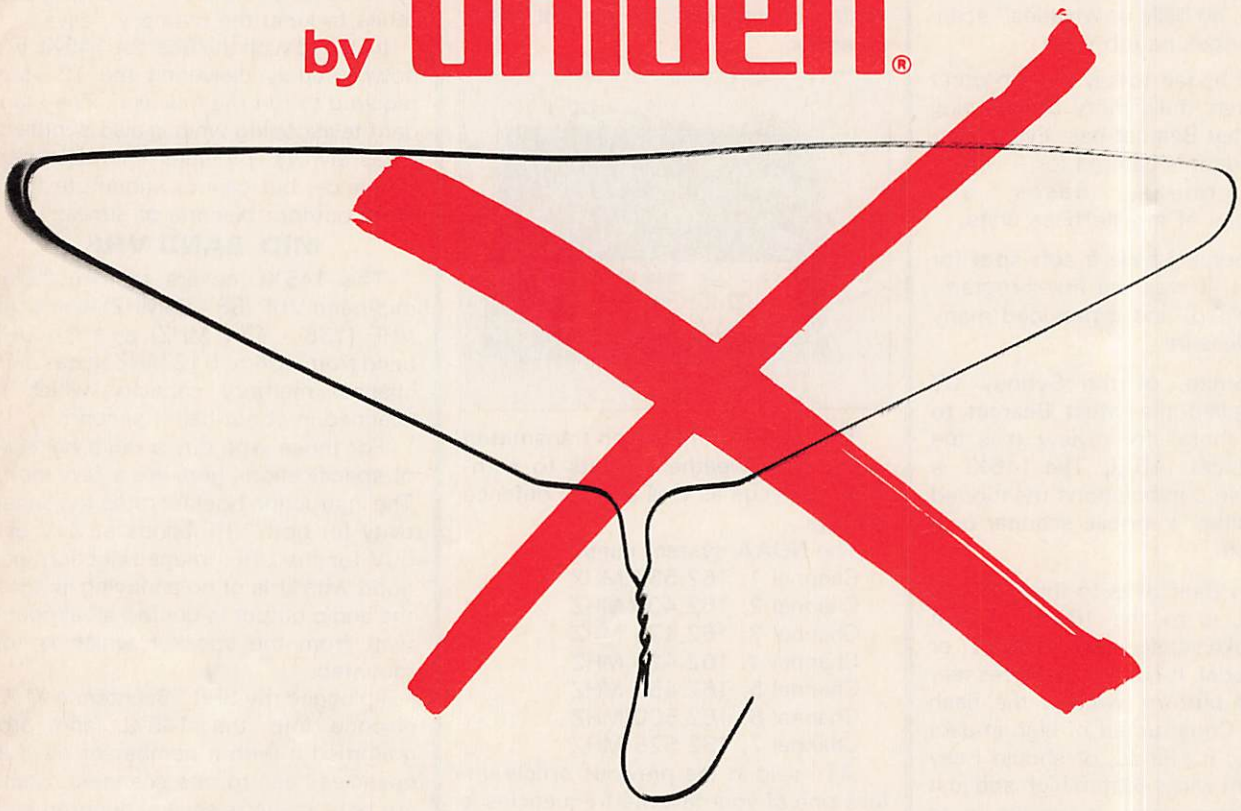

Anything else is just a coat hanger

All antennas may look the same, but all antennas don't perform the same. For assured maximum performance be sure to use only a genuine Uniden antenna. There is now a whole range of Uniden antennas custom manufactured in Australia to Uniden specifications to go with your Uniden.

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ST COMMUNICATIONS HELPED LIGHT THE
IRTHDAY BEACONS

When we were approached by John Cribbes, of the Victorian Four Wheel Drive ociation, to co-ordinate communications for the Birthday Beacons across the arbor, we thought, "Oh, boy, what a job"! To maintain contact with 16 beacons tched between Ceduna and Eucla — some 500kms — that would be fun.

fter previous experience with the 4WD ement we knew that 27 MHz would be common radio in the 34 vehicles in- ed in this exercise, and we couldn't see e taking part paying out some $3000 Flying Doctor set-up.

/e chose Channel 20 AM for convoy to avoid the truckies' channel, and nnel 20 USB for use between beacons he Nullarbor.

/e also offered Channel 40 UHF. How- with only two vehicles with UHF, it 't play much of a part in the project.

o what do we take ourselves? Reliability performance were the main criteria for vent like this, so after searching our ves, we fitted a new Cobra 146GTL a 5' ZCG bull bar mount as an antenna. decided that no pre-delivery check ld be made on either the unit or the nna, as this would detract from the re- we may or may not achieve. We also ed my favorite SSB rig as a back-up — G.E.3-5826.

or base operations we chose an ITRON antenna to fit onto the four-metre tele- ic mast mounted on the vehicle. An IC735 with 80-metre mobile whip set he Amateur side, and an RFDS rig and nna lent to us by Long Distance Com- ications completed a formidable array dio gear and antennas.

/hen we left Melbourne we were loaded food, tents, radio gear with trailer and, p it all off, 16 boxes of firewood on the Two kids in the rear section of our G60 ol and away we went.

he trip over to Base camp was uneventful yet enjoyable as the scenery changed gentle hills to open plains. The only ement was a blowout at 110kmh, h, with the load on board, created a t drama for a short time. Base camp a ghost town called Fowlers Bay, kms west of Ceduna.

DISAPPOINTMENT

Upon arrival we set up our radio system. The Itron was soon way above the truck on its mast, and we thought we would work the world. Disappointment!

Fowlers Bay was in a hole so far as radio was concerned, and we were lucky to work 15kms. Prior to the Beacon lighting on the Saturday night we scouted around and found a good point near a Telecom tower, just 10kms from Fowlers Bay.

After setting up at our new position, it was time to see how far we could work. Nearly all vehicles had SSB, however a number had only AM sets, so we worked both. With the Itron in place and the Cobra located on the bonnet, we worked beacons on AM100 kms to the west of our position, and 96kms east! Not a bad effort.

We tried to contact further beacons, but terrain beat us and that was the limit. Skip out there was unreal! Half the world coming through and ready for picking.

However, this trip was not chasing the overseas guys, but to maintain communications between guys spread across the Nullarbor. We had to work on a relay system for those at Beacons past the 100km limit.

As Adelaide fires its Beacon, it became exciting. Were our guys in place and ready? Had anything gone wrong in the setting up? Had they allowed enough time to drive to their locations? We had some 30 minutes to sort out problems. At 6.55 pm we received a message from our first beacon that they were ready to fire. The other beacons called in with the same message. All was well.

BEACON LIT

At 7.03 pm on Saturday, 18 June 1988 (local time) our first beacon fired, with the others following in timed succession. Little beacons completing the chain around Australia fired on time by guys who had driven in excess of 1500kms to achieve the purpose.

By 8.35 it was over. Our beacon chain had been completed and reports came flooding in with vehicles clearing their locations and heading home.

How did the Cobra perform? I have always maintained that the G.E. sideband was the radio to beat, and has been my benchmark for some time. I can say that the Cobra performed as well as, if not better than, the G.E. At last we have a set to replace the G.E. in quality and performance. Comparing the two sets on incoming signals proved the performance, and reports from beacon sites on transmit quality and power confirmed it.

ITRON ANTENNA

The Itron Base Antenna? This antenna as a base station, or portable base, is so easy to install and handle, with performance to match, making it a good buy. It is ideal, idiot-proof, waterproof, damageproof and easy to fold up and put away for next time.

The IC735? The only regret was that it wouldn't transmit on CB frequencies. The receive mode was good, and we had terrific reports back to Melbourne every night we were away on 80m. Mind you, the corona effect on the antenna during transmit did baffle a few of the CBers who hadn't seen it before. The purple arc emanating from the antenna tip on transmit did look good in the night sky.

It also gave us a great opportunity to test gear in a practical sense over such an area to see if it is really "that good". Many thanks to Pearce Simpson Hatadi, Icom, Itron, ZCG, and Long Distance Communications for gear and support so readily given for this adventure.

TOMLINSON COMMUNICATIONS

ANTENNA MANUFACTURERS

BEAMS

3 Element 10 & 11 metres.....$119
4 Element 10 & 11 metres.....$155
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6 Element 10 & 11 metres.....$209
3 Element 15 metres $135
4 Element 15 metres $185
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6 Element 6 metres $155
5 Element 2 metres $60
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11 Element 2 metres $100
Duo Bander 3 Elements 10 & 15 metres.....$205
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Short Wave Listening is

LEGAL OVERSEAS DX!

By Bob Padula, OAM, MIE(Aust)

SHORTWAVE LISTENING . . . this is a pastime where the world is really at your fingertips! On shortwave radio, you can hear the latest news directly from where it actually happens, together with comments, discussions, interviews, drama, sports, and the latest music from almost every exotic place you can think of!

Listen to rumbas or cha-cha from Venezuela and Colombia, classical music from Kiev, or perhaps the latest in African rock music direct from Nigeria, Ghana or Kenya!

All this and more is waiting for you on shortwave radio. The places you've previously only read about will come alive and your friends, family, school or business colleagues will be impressed by your knowledge of current happenings around the world.

The world by your armchair — that's what global shortwave radio is all about!

INTERNATIONAL BROADCASTING

Did you know that there are thousands of broadcasting stations in every country of the world!?

Most of the larger — and many of the smaller as well — have international transmissions, intended for listeners in countries thousands of kilometres away. Each major broadcasting station generally transmits programs to each area of the world using one or more high-powered transmitters.

You'll find that it's possible to hear programs intended for areas in other parts of the world, thus giving a much greater choice of broadcasts from which to choose. Most stations change their operating frequencies throughout the year, in order to make the best possible use of reception conditions at any particular time.

Major changes in frequencies are usually effected on the first Sunday in May and November, with further adjustments being made on the first Sunday in March and September.

Details of schedules, with times and frequencies for the various target areas, are available directly from most stations, free of charge, and are generally sent out for each of the four Transmission Periods mentioned above.

WHAT YOU CAN HEAR!

Unlike local stations, International broadcasters announce times using Co-ordinated Universal Time (UTC) which was formerly known as Greenwich Mean Time (GMT). This is the world-wide standard, and is a 24-hour system. It's easy to convert UTC to local time, or vice-versa. UTC is ten hours behind Australian Eastern Standard Time, or 11 hours behind Australian Eastern Summer Time. For example, 0900 UTC corresponds to 7pm AEST, or 8pm during Summer Time.

And, 2100 UTC is equal to 7am AEST, or 8am when Summer Time is in force.

As for local broadcasting, international transmissions are authorized to operate in defined frequency "bands", historically designated in "metre bands". It's illegal for other types of stations to operate within these internationally designated bands.

Stations normally announce the metre band, or bands, in which their transmissions are being radiated, and these details may also be given in terms of the actual operating frequency, in kiloHertz (kHz).

At the present time, reallocation and extension of the bands assigned to International broadcasting is occurring, under the auspices of the International Telecommunications Union in Switzerland, and the existing and proposed band assignments are shown below.

Even though the new band allocations have not as yet been officially endorsed, many stations are operating there, on a regular basis.

WHAT IS DXING?

Dxing is a logical extension and development from the hobby of shortwave listening. The term "DX", in this context, is an abbreviation for "distance" and a DXer, in general terms, is someone who listens to overseas or distant broadcasting stations, and whose main goal is the organized study of reception patterns and the systematic collection of QSLs (vertifications) from selected stations.

The term "SWLer" is used where reception is primarily for program or message content, as distinct from the "DXer" whose activities are generally related to monitoring and reception-reporting for QSLs.

Newcomers usually start out as "SWLs", where reception of English programs for their entertainment or information value is of primary importance. As experience is gained, systematic monitoring and QSL acquisiton are the serious DXer's prime targets, and listening to distant stations

120 metre band: 2300-2495 kHz
90 metre band: 3200-3400 kHz
75 metre band: 3900-4000 kHz
60 metre band: 4750-5060 kHz
49 metre band: 5950-6200 kHz
41 metre band: 7100-7300 kHz
31 metre band: 9500-9775 kHz (proposed: 9500-9900)
25 metre band: 11700-11975 kHz (proposed: 11650-12050 kHz)
22 metre band: Proposed new band — 13600-13800 kHz
19 metre band: 15100-15450 kHz (proposed: 15100-15600 kHz)
16 metre band: 17700-17900 kHz (proposed: 17550-17900 kHz)
13 metre band: 21450-21750 kHz (proposed: 21450-21850 kHz)
11 metre band: 25600-26100 kHz (proposed: 25670-26100 kHz)

for general entertainment or information becomes of secondary interest.

Many DXers have specialized in various areas of the hobby including monitoring and reporting of local broadcasters in Indonesia, Latin America, Africa, China and the USSR. Other DXers have developed an interest in international monitoring, and their skills and knowledge are sought, and utilized, by many broadcasters, in regular assessments of reception quality and propagation.

WHO CAN BECOME A DXER?

The answer to this is simple . . . anyone!

Many DXers start out in the hobby, while at school, and is an activity that can be pursued through the retirement years, at a pace set by yourself, dependent on dedication, time and interest. Many handicapped persons find enjoyment and satisfaction from DXing. No special skills are needed, only a desire to explore the almost limitless number of different broadcasting activities.

None of the above are "prerequisites" for entry to the hobby, and people from all walks of life are represented within the global DXing movement.

I might add that the hobby provides opportunity for meeting people with a similar interest, either at the local level or via correspondence on a wider scale. Such personal contact is important, in exchanging ideas, notes, and general chit-chat on "what's being heard" or "what's been QSL'd"!

EQUIPMENT

Naturally, a receiver is essential!

DXing is a participatory activity, and should not be seen as a "spectator sport". The receiver need not be elaborate, and most folk start off with something simple, then secure a receiver which suits their style and interest level. My own main receiver is the battle-axe Marconi CR100, now nearly 50 years old, with some of its original tubes still going strong! I don't suggest that such a boat-anchor is the best way to go if you're new to the game, and neither do I advocate rushing out and getting the latest $3000 super-duper multi-band machine at the other end of the scale!

Secondhand receivers are always on the market, particularly the final-generation tube-type sets which were phased out of commercial markets in the 1970s.

While not having direct/digital frequency readout, they're adequate if you're new to SWLing. You might also consider getting hold of a two or three-band transistor portable, available rather cheaply through chain-store outlets.

INFORMATION

In support of the hobby, various commercial references and books are available, some cheap, and some not so cheap. Traditionally, the DXer's "Bible" is the Word Radio TV Handbook, with the 1988 edition running to 574 pages.

I believe that this publication is mandatory for all levels of hobby interest, whether for elementary shortwave listening or advanced/specialist DXing. It's available from commercial booksellers in main cities, and contains just about everything you need to know on the subject of world radio!

DX PROGRAMS

Useful sources of information are the many DX programs produced by various international broadcasting stations.

These attract a substantial audience world-wide, offering timely news and "tips" on schedules, new stations, and DX reports.

I would recommend the following: "Media Network" over Radio Netherlands, "DX Party Line" over the "Voice of the Andes" (Ecuador), "Austrian Shortwave Panorama" over Radio Austria International, "Shortwave Listener's Digest" over Radio Canada International, "Communications World" over the Voice of America, and "Pacific DX Magazine" over Trans World Radio Pacific (Guam).

DX ORGANISATIONS

As with any hobby, it's almost mandatory to join a suitable club, for keeping up-to-date with happenings, and to share and swap information with other folk. The World Radio TV Handbook, each year, provides a comprehensive listing of clubs around the world, with details of services offered, publications available, and their addresses.

Most clubs are run on a spare-time, voluntary basis, on a financial "break-even" basis, and if you seek information, remember to enclose return postage.

While not specifically stated, it's generally accepted that membership of a DX club requires individual support in the sharing of information, and the clubs should not be seen merely as a cheap form of "magazine subscription service".

All clubs produce some form of regular newsletter, put together from input received from members, and if you join such a club, be prepared to support it with your own information, even though you may feel that this might not be needed.

The clubs operate on the basis of pooling news on the understanding that no one person can possibly hope to possess information on every station that's currently being heard!

My own affiliation is with the "Australian Radio DX Club", both as a Foundation and Life Member. The ARDXC was formed back in 1965, and takes pride on its high level of editorial support by its membership, and in the accuracy and timeliness of the material offered in its monthly magazine, the "Australian DX News".

Suitable exchange arrangements are maintained with similar organizations outside of Australia.

It offers a range of support material for its members, and monthly meetings are organized.

Coverage is not limited to shortwave . . . the specialist areas of medium-wave, long-wave, utility, FM, TV, and Amateur broadcast reception are available.

If you'd like to know more about the ARDXC, please send six 37¢ stamps to the Secretary, ARDXC, PO Box 2036, North Brighton, Victoria 3186, and mention CBA!

CONCLUSION

This introductory article has been designed mainly to offer a broad overview of shortwave listening and DXing, and to give some sort of background to folk who already have an interest in the subject, or who would like to get involved.

The subject is vast, and the world-wide SWL/DXing movement is alive and kicking!

The hobby provides a useful and productive spare-time pastime for all sorts of people, and it's obvious that younger people are now starting to take up radio monitoring again, as I did several years ago.

If my discussion has prompted further interest in the hobby by CBA readers, then I'm sure that you won't be disappointed!

Good DXing.

Scanners

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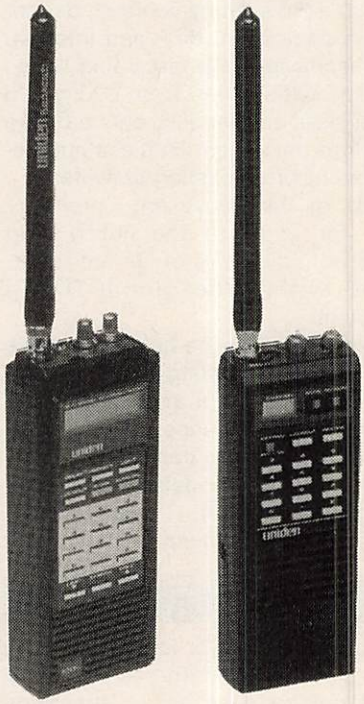
BC-50XL
An attractive priced hand-held scanner featuring 10 channels covering 10 frequency bands, keyboard lock switch, audible low battery warning, channel lockout, two digit LC display and patented track tuning.

BC-175XL
An attractive, 16 channel scanner with luxurious wood grain appearance. It covers 9 bands including aircraft and lowband frequencies. Automatic search locates frequencies automatically and patented track running allows the unit to peak on each transmission. The priority feature checks channel one every two seconds for important messages. A memory backup retains frequencies entered for up to four hours without batteries in event of power failure.



BC-100XL
A hand-held with more scanning power than many base or mobile units. Sixteen channels cover nine bands, including the aircraft band. Your priority frequency is checked automatically every two seconds. The keyboard can be locked to prevent accidental programming. The LCD display is lighted for better night viewing.

BC-800XLT NEW CELLULAR SCANNER
Scanning is easy and fun with the Uniden® Bearcat® 800XLT. Advanced microprocessor electronics provide some unique automatic and programmable features and dependable operation. The keyboard has been designed for maximum operating efficiency. It is divided into two sections: PROGRAM, which allows you to command any frequencies (VHF/UHF/800 MHz) on its 40 channels; and OPERATION, which controls scan, lockout, direct channel access and automatic search.

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You don't have to be big to be powerful. Independent tests have shown the RD-9 to be one of the most powerful radar detectors in the world. Features include two colour signal strength meter, separate audio/visual warning discriminating between X and K bands, automatic dimmer, selectable and visual alarms and city/highway switch. Its dual conversion superheterodyne, equipped with the exclusive Electronic Data Interference Terminator (E.D.I.T.), screens out false alarm. Complete with carrying case and mounting hardware.

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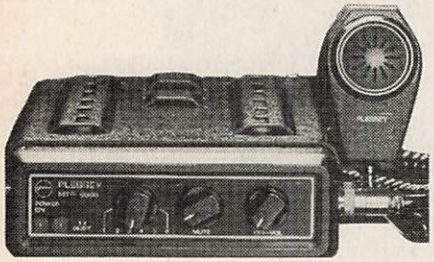

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SYDNEY SCENE

by Steve Griffin

After some pretty intense probing, snooping, spying and generally getting under people's feet, I have come up with some of the latest and greatest info for this issue. Unfortunately there is not enough room for all the details in this column but I'm sure that those of you that take an interest in something should be able to find out more on the subject.

Before anything else is said it seems that the evil fairy struck my column last issue stating 144-148Mhz could be used by novices. This is incorrect and should have read 146-148Mhz.

Now, some of the most interesting news concerns the current ministerial documents governing the importing of radio equipment. Importers thinking of ordering or re-ordering some of their popular lines should try to obtain copies of documents ECR 312 for equipment under 30 Mhz and ECR 250 for equipment over 30 Mhz.

Also available is an Importing Radio Equipment brochure which has some interesting statements.

Recently I had a couple of people question my ability to write a column such as this. One stated that I didn't cover enough details on the things that happen in and around Sydney and the other asked how I could mention problems with equipment and retailing when I'm not in the business.

Well did I go off!

Firstly, I have all the necessary experience and sufficient contacts, in the right places, to say the things that I do. If I put all the details in these pages about the things that go on I'm sure I would be summonsed to court 5 days a week to prove their accuracy.

This is why, on occasion, my column seems a little vague or unfinished.

A pet subject of mine is the repairs, of radio equipment, made by a few dealers and importers. I have nothing against the majority of them but I wish to God the few bad ones would get a good technician, or at the least buy some decent equipment to enable repairs to be made with accuracy.

Some of the equipment I've seen, while snooping around, would make the manufacturers roll over in their graves.

NZ FREQ CHANGE

Also while on the subject of suppliers, I hope none of the NZ suppliers were caught out by a sudden change to their frequency allocation. Yes that's right, yet another change has been made to the new spectrum.

The frequencies now official, yes I double checked, are 26.330 to 26.770Mhz. This is a drop of 30 Khz to their original 40ch AM/SSB allocation, with channel 15 nominated as the only call channel to date.

Apparently, at the time I checked with the NZ Radio Frequency Service Auckland not many people had been notified and, thanks to L.S of Auckland, for being so quick, I was probably the first person in Australia to know.

The UNIDEN PC122 and AX144 radios are expected to be the first to be released in NZ with the new frequencies. All sets that will be released on the NZ market have to be approved by NZ authorities and carry an RTA number in similar respect to our RB248A and other RB numbers.

Rumor has it that a good quality SSB radio could sell anywhere between $NZ300 and $NZ1100.

Yuk! An average AM only set is selling at around $NZ289 nearly all over NZ.

MEDICAL PROBLEMS?

A bad note about UHF is that the Medical Media, in the USA, are putting the blame on UHF handheld equipment for various kidney and cataract problems. Apparently it is being claimed that the radiated power generated by the various units is effectively damaging these parts of the body as they are the closest to where the radios are most commonly used. I believe OTC have already had a conference on this and other problems and some sort of media release is expected to be released soon.

SUNDAY NEWS

The Lakemba Area (LA) Club still have their Sunday evening News broadcast on channels 22USB and 25UHF, throughout the Metro area, & on 27LSB throughout the South Coast of NSW. Starting time is 8pm, every Sunday night and contains news and views on all aspects of club news, and outings. Departmental news, and lots of other very interesting items.

They have asked me to let everyone know that on channel 12LSB every Friday evening between 8.30 to 10.30 they hold a Trading Post segment. Items offered for sale over the years inc. CB Radios, Amateur Radios, pigs (Yes pigs!), chickens, houses, land, car parts, and yes, even the kitchen sink.

Also emphasised is the fact that there is a Wanted Section for those who are chasing that something in particular such as a windscreen or body panel for the old FJ or Morris, a rare Ham International Radio, practically all items, that can be brought and sold, are on the agenda.

Bob Saint, secretary of the club, tells me that, over the years, thousands of dollars worth of goodies have been sold through their Trading Post so have a listen this Friday, I do nearly every week.

By the way, it only costs you a phone call.

If you do wish to sell something give Rick a call on (02) 606 1079 and he'll take all the details. Items can also be sent by mail to LA Club PO Box 82, Peakhurst 2210, and they will also answer any enquiries, re. membership, outings, etc.

A couple of readers recently asked if there is going to be a new Free Classified ad. section in this mag. and honestly I can't say. I think that's something that has to come from the editor. How about it Len??? (We're thinking about it. Ed)

One of my most regular readers has written saying that she had a visit recently from the RI's.

After some checking of her equipment the inspector told her that the Turner base mic. she was using is illegal and had to be removed at once. She told the inspector that she thought power mics were now legal as there was an article in the CB Action referring to the same.

To be honest the only article that I can remember, without going through all the old issues, in fact questioned whether power mics were legal or not.

The writer of the letter stated that the RI stated she had contravened section 25 (1) of the Radio Communications Act 1983!

OK, basically this bit of the act refers to interference and simply not doing anything that you shouldn't. In any case power mics are illegal, unless the rig comes fitted with the unit and is approved with it.

As you can imagine, the Department is a little vague with these things over the phone and they will probably tell you it has to be approved if you want to use it, or should I say before it can be used.

The new DOC14, March 88, states: (G) "The licence for a CB is issued on the understanding that interference is not caused to broadcast and TV reception or other radio communication stations and services".

Under section (15) "The equipment must not be modified or changed in any way". And under section (18) "the addition of any amplifiers".

These sections have been shortened due to the lack of room left in this column . . . So believe me power mics, and the like, are technically illegal.

This is not quite so clearcut as it might seem. We have taken up the question of the legality of power microphones with the Canberra DoTaC office and even they admit that it is a "grey area" with the question being one of "interpretation".

I hope we will have something firm on the matter in the next issue. Ed)

The Sydney Radio Field Day on the 3rd July was absolutely the best so far. It is obvious that it is getting more and more popular. Everything went well on the day and people were there from as far away as Queensland, Victoria as well as the regulars from Canberra.

Overall sales were high and many companies were represented.

That's about it for this issue, I'm sure a few feathers have been ruffled so I'll quit while I'm ahead . . . until next issue at least.

Drop me a line at PO Box 40, Gladesville, 2111 and let your news & comments be heard.

CAPTAIN COMMUNICATIONS PTY LTD

AUSTRALIA'S LEADING COMMUNICATIONS SPECIALIST

Permanent Angle Mount Base

The only one of its type. Set your angle on a permanent 20 degree angle for lower wind drag and better skywave.

$8.50 plus
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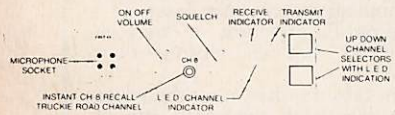
27Hz AM Special



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$98.00
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Price includes 3' standard helical, coax cable, base and lead.

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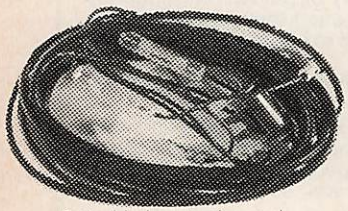

Get added protection and freedom from interference with this heavy duty, low loss suppressor power cable. Incorporates heavy duty wiring, double fusing and a high quality in-line suppressor for better reception.

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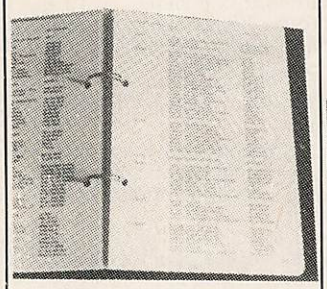

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including co-ax and teflock

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The UHF antenna with real punch! Suitable for base or mobile operation, it delivers an incredible 6dB gain. The tough laminated fibreglass construction makes it suitable for 4WD vehicles. For marine use, a fold-over can be fitted.

only $135
with mobile spring

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6dB Gain Omnidirectional
only $69.00
12dB Gain Omnidirectional
only $189.00

- N-Type socket
- 5% Bandwidth

The Ultimate Guard Mount

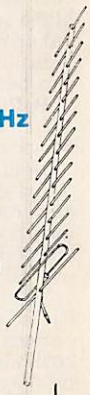
Strong stainless steel construction.

only $11.50

YAGI BEAMS 477MHz

- 6 Element/9dB Gain $99.00
- 9 element/12dB Gain $149.00
- 16 element/15dB Gain $199.00

Freight on application



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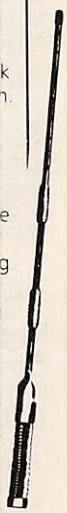
It is specifically designed to work in almost any mounting position. It can even be mounted on fibreglass with a small modification to the base.
Features include:
- ☐ Integral spring, 5/16" TPI base
- ☐ Epoxy coated
- ☐ 3 element with no protruding coils
- ☐ 5 year conditional guarantee

FAZE 3 WHIP ONLY
$39.00
Plus P&P



Faze 3 whip including installation kit

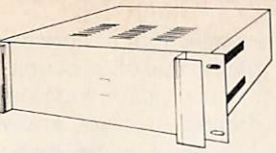
(Teflock PL259 connector and coax)

$59.00 plus P&P

Teflock – the ultimate PL259 connector

This revolutionary new UHF connector is guaranteed not to break or short. It goes without soldering. The unique Teflon insulator withstands heat and rough handling and it's fully reusable.
Call us for the Teflock, plus Australia's most comprehensive range of Japanese and Australian connectors.

only $5.50



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Australian CB Communications Guide 1988

Written by well known CB uthority, David Smith, with ontributors, David Flynn and ussell Bryant. Topics include:
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- UHF CB
- Repeaters
- Operating
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- Licensing
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- Accessories
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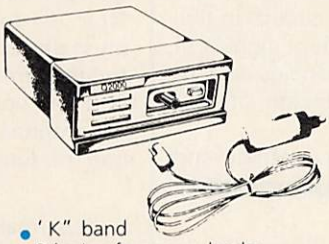

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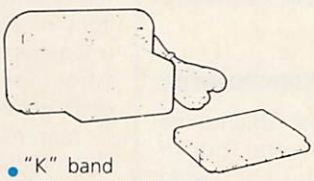

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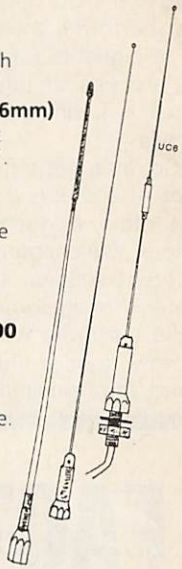

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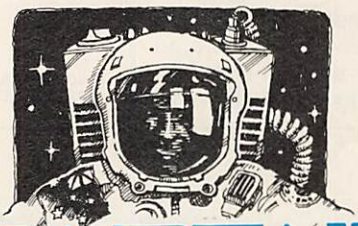

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FACTS ON FILTERS

Filters are not just things that sit on the end of a cigarette. They perform a very important function in radios and this article explains what they do for a CB rig and antenna.

WHAT IS A RADIO FILTER? Well, like the name implies, it's a device that is used to "filter" out certain unwanted frequencies while allowing other frequencies to pass on through. If you stop to think of it, then any tuned circuit that performs the function of "tuning in" a signal is basically a filter, for, in the process of tuning in a "wanted" signal, it is tuning out the "unwanted" signals.

So, let's get a firm grip on this concept — a filter is designed to pass certain radio frequencies and to reject others. We encounter "filters" in many different shapes, sizes and places — all performing some special function to make our radio work better.

How does a filter work? To understand the principle of filters properly, one should first review the idea of wavelengths or frequencies. All of the frequencies that we deal with are basically an alternating current, going through a complete cycle at a certain number of times each second. The lowest frequency that we deal with is that of our household electrical system, alternating at 50 times per second. Compare the number of cycles to the wavelength on the 11-metre Citizen's Band, 27 million cycles per second!

Yet, each of these widely separated frequencies has one thing in common — they are each alternating current, rising to a peak and then falling to zero and rising to a peak in the opposite direction and falling to zero again. This change is called a "cycle" and is usually in the form of a "sine wave" as shown in Fig. 1.

What we are concerned with here is that these "cycles" are made up of both voltage and current, each moving through the cycle in its own fashion. It is because the voltage and the current react differently that filter circuits can be designed to do specific things. You know, in effect, your CB antenna is a filter, that is, it's a tuned circuit. In this case its function is to accept signals of a certain band, of frequencies and to reject others that lie outside of that band.

If you could "see" the voltage and current distribution on your CB antenna you would note that they are "out of phase", which is only a way of saying that each is doing something that is the opposite of the other. At that point on your antenna where the current is at its maximum peak, the voltage is at its minimum. When the voltage is at its maximum, the current is at a minimum.

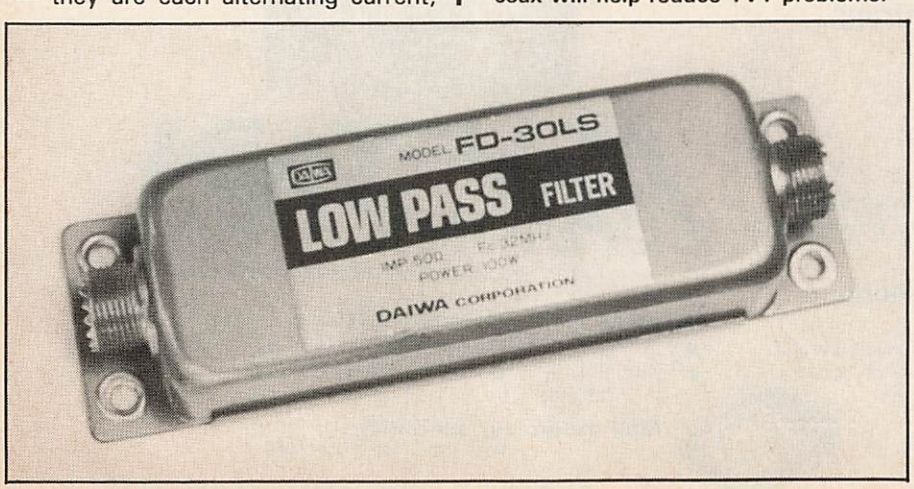
The tuned circuit that acts as a "filter" is determined by the length of your CB antenna. For any length of antenna it is possible to plot the position of voltage and current at any point along the length of the antenna — if you know the frequency of the radio energy being applied to the antenna.

If you examine Fig. 2 you can see that for a half-wave antenna the voltage is at a maximum at either end, while the current is maximum in the middle and minimum at each end. "So what?" you ask. Well, that antenna is a "filter," a tuned circuit. If we want it to act as a filter at some certain frequency we must see that it is just the right length for that frequency, so that those current and voltage wages will "fit" onto the antenna — being neither too short nor too long.

If we make an antenna for a specific frequency we can determine just how long it should be by dividing that frequency into the speed of light, for that's how fast the radio waves travel. Since light travels at 300,000,000 metres a second we divide the frequency of our radio waves in cycles into that figure. But we usually are dealing in millions of cycles in the antenna business (megahertz) so we can shorten the whole formula to 300 divided by the desired frequency in megahertz. The filter (antenna) that we want to be right in the middle of the CB band should be designed to work at 27.205 MHz. Divide that into 300 and we come out with 11.027 metres (that's where we get the 11-metre band stuff). Since a metre is equal to 3.28 feet we only have to multiply our 11.027 figure by 3.28 to get the length of a full wave antenna in feet — 36.169 feet.

Now, if we look at Fig. 1. we can see that the length of the antenna will exactly accommodate one full cycle at 27.115 MHz. Any frequency that is above or below that will not "fit" the antenna, and, consequently, will not be accepted by the antenna as easily.

So, the first "filter" that we deal with is the one we hook up to our CB radio, the antenna. Now do you see why it is so important to "prune and tune" by inches and less to fit your antenna to the frequency you want to receive? Of course the antenna is rarely so "sharp" a filter that it will not cover a number of frequencies on either side of the "design frequency", so it will work well over a "band" of frequencies, such as the 40CB channels.



A low pass filter fitted in line with the coax will help reduce TV1 problems.

The next "filter" we encounter after getting that small alternating current from the antenna and into our CB radio is a tuned circuit. We're not going to load a bunch of complex theory onto you at this point. But you should be aware that there are two major ingredients to any filter or tuned circuit — coils and capacitors (sometimes called condensers). Now, it happens that a coil reacts to alternating current in just the opposite way that a capacitor does. What is this reacting? It is simply opposition resistance to the flow of alternating current. It called "reactance."

A coil (inductor) offers "inductive reactance" to the flow of alternating current and a capacitor offers "capacitive reactance."

If we took that antenna and wound it into a coil, instead of leaving it stretched out, we would still find that it had the same capability of "fitting" a certain wavelength and rejecting others. Remember that we showed you that the voltage and current were opposite each other on the antenna. (Fig 2.) Well, coils and capacitors have different "reactances" to changes in frequencies too. The faster the number of cycles per second (higher the frequency) the more reactance a coil has to the flow of current. But the capacitor has just the opposite — its reactance decreases with an increase in frequency.

Not only do coils and capacitors react differently to frequency, but also they react differently to voltage and current. The whole results of this difference in reaction is that a coil and a capacitor can be hooked up in a tuned circuit to do either of two things — cancel each other out and offer almost no resistance to the flow of current at one particular frequency (series circuit) or add their reactances together and offer maximum reactance to one particular frequency (parallel tuned circuit).

Figure 3 shows a parellel tuned circuit in a typical application, a "wave trap" designed to prevent a particular frequency from coming down the antenna and into the radio. Obviously, it's a filter, for its sole purpose is to filter out an unwanted frequency. This kind of "wave trap" works like "gang busters" against one offending signal, but only against a signal at one frequency. If you happen to live in the vicinity of a powerful broadcasting station that is coming in all over your dial you can build a "wave trap" and cut the signal down to where your radio can handle it.

continued over . . .

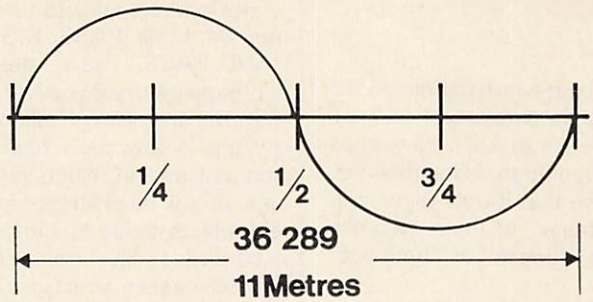


Fig. 1. Showing one full wave of current on an 11 metre (CB) antenna. Note that the current maximums are the quarter wavepoints. These also correspond to the points of lowest radiation resistance, or impedance.

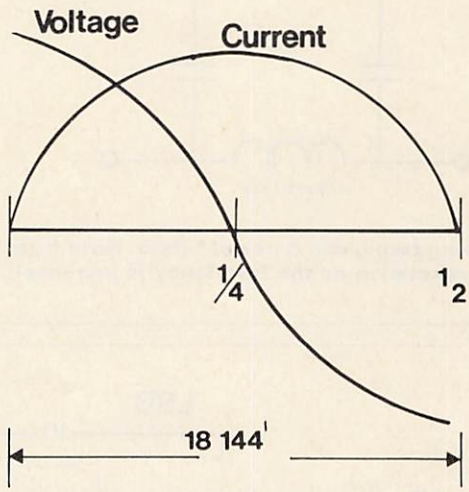


Fig. 2. Showing the distribution of both the current and voltage waves on a half wave antenna. The voltage is at a minimum and the current at a maximum in the middle (quarter wave points). A quarter wave antenna would be half the length.

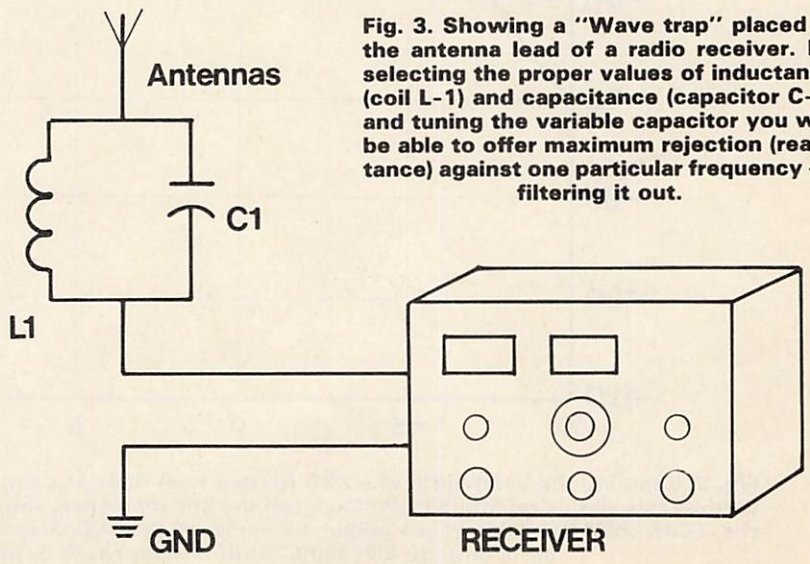


Fig. 3. Showing a "Wave trap" placed in the antenna lead of a radio receiver. By selecting the proper values of inductance (coil L-1) and capacitance (capacitor C-1) and tuning the variable capacitor you will be able to offer maximum rejection (reactance) against one particular frequency — filtering it out.

FACTS ON FILTERS

(continued)

Once you've got a firm handle on the concept that coils (inductors) and capacitors (condensers) each have their own way of treating an AC signal, you can begin to see that it only takes certain "combinations" of these two elements to either "tune in" or "tune out" a frequency.

That's the whole principle of filters and tuned circuits — placing those elements in combinations that will do a certain job.

Radio filters fall into three broad categories: LOW PASS, HIGH PASS and BAND PASS. The names are almost self-explanatory if you just keep in mind that we are always talking about frequency. A low pass filter passes low frequencies and rejects higher frequencies. A high pass filter passes the highs and rejects those at a lower frequency. A band pass filter does what its name implies, passes a certain "band" of frequencies, rejecting those below and above the band pass frequency.

Of course it is frequently necessary to put another type of filter on the other end of your CB mobile radio. Most cars now have alternators that generate an alternating current which is rectified into DC to charge the battery and run lights and radios. A certain amount of "hash and trash" is also generated in the process, such as "alternator whine" and a filter might be needed to allow the direct current to come through while "filtering out" those AC components that are not needed and only cause static and interference to your CB radio.

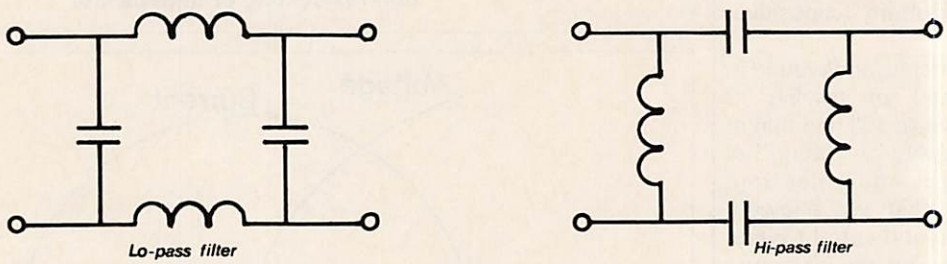


Fig. 4. Showing two basic types of filters. Note from the text that the capacitors will offer less and less reactance as the frequency is increased, while the coils act just the opposite.

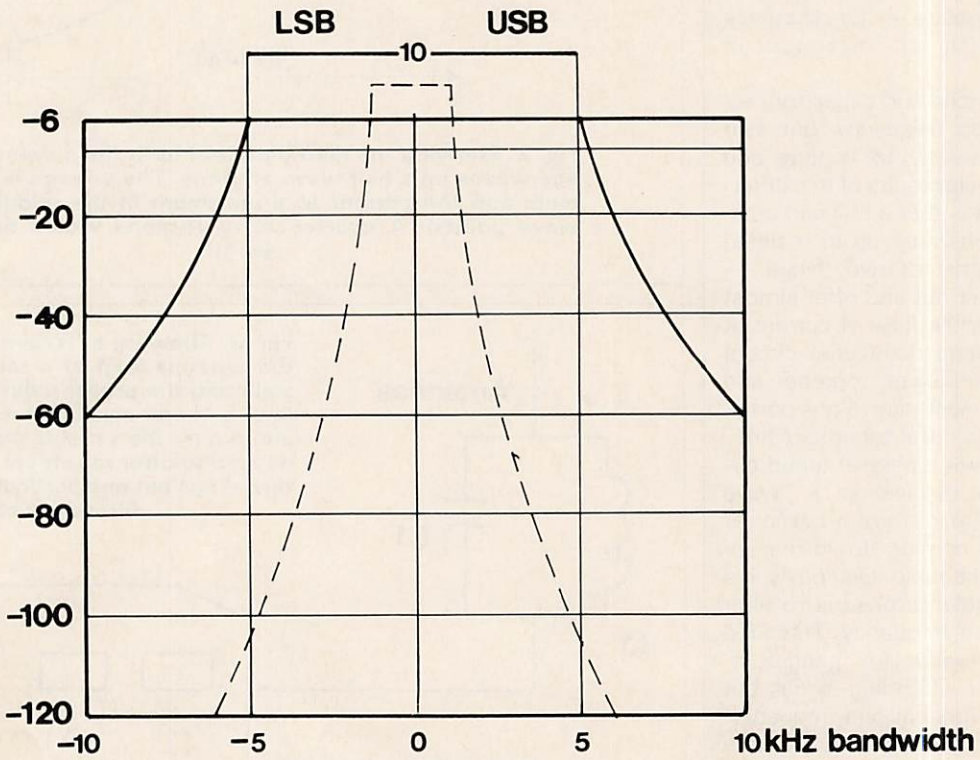


Fig. 5. Showing the bandwidth of a SSB (dotted line) filter as compared to an AM (solid line) filter. The vertical axis shows rejection in decibels and the horizontal axis shows bandwidth from 0 (center slot) At the -60dB point (rejection of one million power level) the SSB filter is still only 6 kHz wide, but the AM filter is now 20 kHz wide. Both shapes show extremely good filters.

Other auto devices generate their wn type of interference and some-mes a capacitor in the right place will lter out the unwanted energy. How oes the capacitor work? Remember hat we said that the capacitor offers ess reactance (resistance) to the flow f AC as the frequency gets higher?

If we put a capacitor between a de-ice that is suspected of generating in-erference (all radio interference is ome form of AC or voltage spike) — C doesn't cause interference — and he car chassis (ground) we may be ble to "by-pass" the energy right hrough the capacitor to the chassis, ffectively "shorting it out" before it an get into our radio. Used in that way is known as a "by-pass capacitor."

Really tough inteference may require combination of coils and capacitors o do the job needed. See Figure 4 for ome examples of coil and capacitor rrangements that are designed for pecific tasks.

Most of us are just content to know hat an inductance (coil) will offer an ncreasing reactance as the frequency s increased and a capacitor (condens-r) will offer less and less reactance as he frequency is increased. Worked in ombination with each other these two devices perform all of the miracles needed to tune radios from our favorite rock'n'roll station to the evening news on our TV.

Without the ability to discriminate among all of that stuff that's constantly flying around out there, radio simply wouldn't be possible. Incidentally, the real "guts" of any CB radio lies in the bandpass filter through which all signals must pass. Bandpass filters have a "shape factor" which is a way of describing not only how wide they are as far as passing a given band of frequencies, but how "deep" they are in rejecting unwanted frequencies. If your radio has a bandpass filter with steep "sides" it will do a good job of rejecting signals that lie just outside of the band it is designed to pass. If it has sides that slope down you can be sure that strong signals just outside of the pass band will force their way through the filter and come out of your speaker as bleedover.

Examine Figure 5 carefully and you will begin to see the importance of that bandpass filter in your CB radio. Of course the filter must be "wide" enough to pass those frequencies needed to provide an intelligible signal out of your loudspeaker. It is this factor that allows single sideband radios to be much more selective than AM radios. You see, an AM radio's bandpass filter must be wide enough to pass not only the carrier frequency, but also both the upper and lower sidebands. Since the typical AM sideband is between three and four thousand cycles wide the bandpass must be at least 8 kHz wide to accommodate the full signal through it.

Added to this is the fact that the frequency tolerances required allow stations to be as much as 2.7 kHz apart and you can see that the bandpass filter on an AM radio simply can't be narrow or you would miss part of the transmissions of half of the stations on the air.

In contrast, for a sideband radio to work properly it only needs to pass 3 kHz — one of the sidebands. The other sideband and the carrier have been suppressed by the transmitting station. That's quite a difference, an AM bandpass filter 10 kHz wide versus a SSB filter 3 kHz wide. Obviously, it allows for almost three times the selectivity!

So, that's our brief tour through the magic of filters, and what they do.

I hope that you learned something of value in this brief treatment of a very complex subject.

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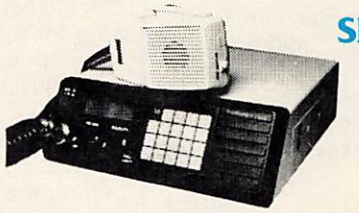

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'BACK TO YOU...'

Letters from readers are welcomed. They should be type-written and present an interesting viewpoint.

FROM THE PILBARRA

Dear Sir,

I think your readers' survey is a good thing that will further the good direction taken by your other publication, Amateur Radio Action.

My first callsign was QAU156 (in 1978) and this passed onto my son in 1985, and is now in the hands of my father — Ken, in Brisbane.

Even though I log up 10 years of licensed operation in July this year, both my son and I will be sporting VK6 callsigns before the end of 1988.

Mind you, 27 Mhz was the start of my interest in radio and I will still be operating there after getting my amateur call.

I can be heard beating up channel 26 LSB from 0800 to 1400 Monday to Friday, and 2300 to 1400 Saturday and Sunday.

A local net operation is held here in the "Capital of the Pilbarra" from 0900 to 1100, followed by the "wafflers' session".

All those above times are in UTC so, for the uninitiated, the net runs from 7pm to 9pm Western Standard Time (9pm to 11pm Eastern Standard Time).

You people in the "middle" can work out your own times as I've been told that you're "the brains of Aussie".

Catch ya' further down the coax.

Peter (WAY 236) (Greybeard)

What can I say? ***Editor***

IT'S BROKEN

Dear Sir,

I've been on air for over a year with an old Viking 4740 and have not had a bit of trouble from it, even though when I purchased it the rig was already about five years old.

However, about two weeks back everything suddenly went terribly quiet and there was a small puff of smoke from the back.

I've taken it to a couple of CB shops to see if I can get whatever's wrong fixed up but they both tried to sell me a new rig and said the Viking wasn't worth repairing.

I know it's six years old, but it's a really good set and I'd like to continue using it.

Do you reckon it's right that it's not worth fixing or am I being conned into buying a new one?

John Mills Manly NSW

For openers, John, the rig is probably closer to ten years old than six, and I think you have more than had full value from it.

They were a very popular rig back in 1976 through about 1980 but, like a lot of rigs from those days, they simply don't make 'em any more — not even in the States.

I doubt that there's a repair shop in Australia which could be bothered trying to repair what sounds like a total disaster scene and, candidly, I think you'd better start saving your money for a new one.

There is a chance that you might pick up one from the classifieds in a daily paper and, if you're dead set on continuing with what's now a vintage rig, that's the best place to look.

Editor

FOUL MOUTHS

Dear Sir,

I am a relative newcomer to CB radio, but have looked forward to getting a rig for a long time and I finally managed to save enough to purchase a good quality AM/SSB set a month or so ago.

Having gone through the problems of erecting a good base antenna and getting the SWR down to about 1.4:1 across the 40 channels I find that what I have been looking forward to is certainly not what I have found the real picture to be.

I believed that CB radio was a means of talking to other people about this and that, but, in my brief time on the air, I've discovered that AM is essentially a kid's band where the prime occupation is "looking for any spunky YLs".

Failing that, most of the people on AM appear to be in desperate need of psychiatric treatment, as they spout some of the filthiest language I've heard — and I've heard a bit, believe me.

A lot of them are obviously kids who probably need a swift kick up the bum by their over-indulgent parents, but many are adults who are, without argument, badly in need of mental help.

Working sideband is somewhat better but, again there is a heap of morons whose command of the English language — or any other for that matter — was evidently left back in primary school.

What I am anxious to know is, how come I have paid out the best part of $700 getting a good rig and antenna, plus $26 to the authorities for a licence, if I have to suffer these brain-dead foulmouths and intellectually retarded halfwits.

What, if anything, is being done by the gentlemen who pocketed my licence fee in respect to clearing up the band?

I am not a wowser nor a purist; in fact I doubt that I'm even a Christian and, having spent time in a shearing team and with the army, I've heard just about everything there is to hear, but I've never inflicted the sort of language and filthy suggestions made to any "YL" or anyone halfway decent who has the audacity to try to use CB as a means of reasonable communication.

The Department of Transport and Communications surely rips enough off CBers for them to expect some sort of policing of the band, but it seems the authorities are far more interested in "busting" operators for using illegal ham radios or linears than they are in taking action against offenders for obscene behaviors — or whatever legal course must be open to them.

Could you, through the magazine, find out what the situation is and why these morons are being allowed to foul up what should be a service free of filth?

I apologize for not providing my name and legal callsign, but I obviously don't need one of these unfortunate brain-dead yobbos to give me any further hassles than they are already inflicting on anyone unfortunate enough to want to carry out a sensible conversation.

I'll be curious as to the magazine's comments.

No signature

The problem is not exactly new, but it's probably worse now than it was even a year ago. ***Editor***

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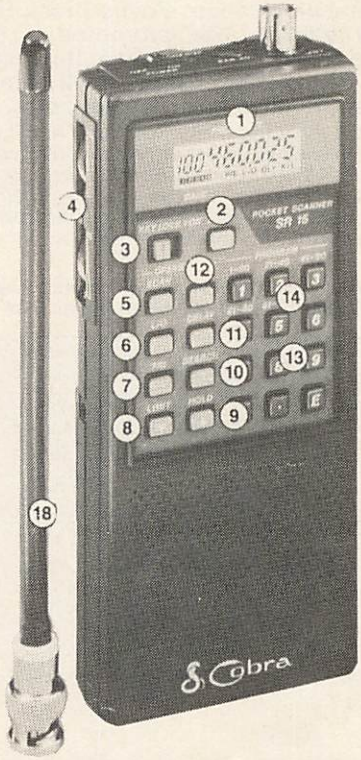

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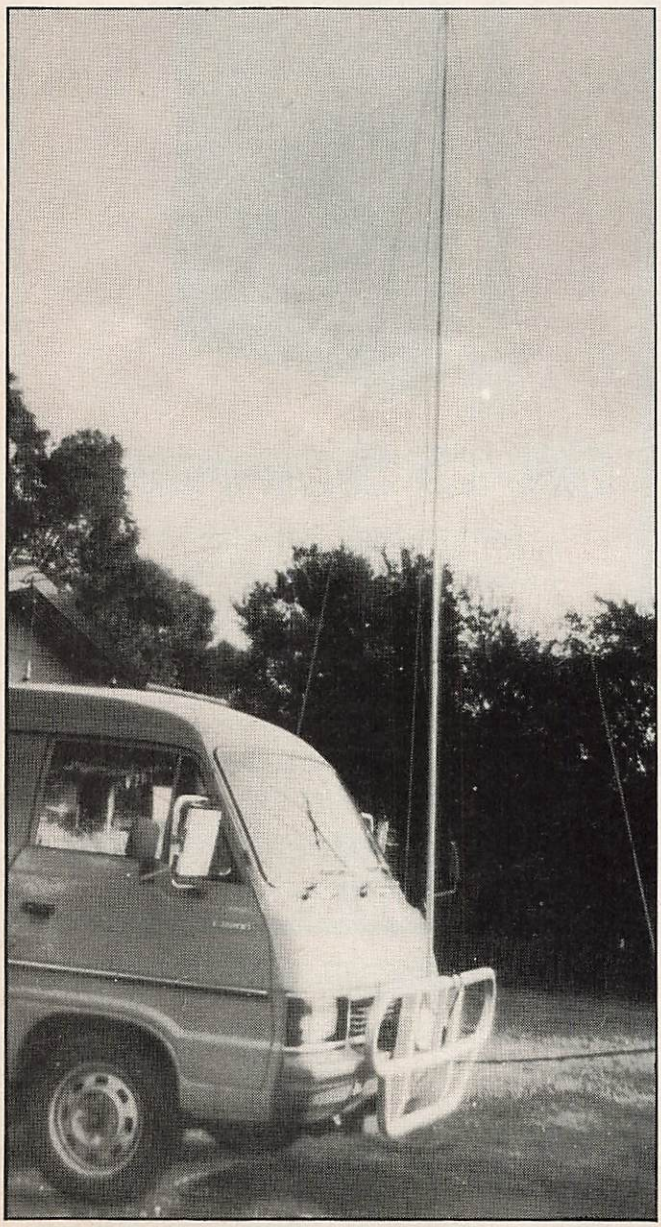
Don Stewart with . . .

OUT WEST

The letter from WAU723 Peter, in the last issue, in response to my piece about Boyup Brook Repeater in the Mar/Apr edition, has prompted a reply from WCB659 Trevor. While I don't want this thing to grow into another "Blue Hills" saga, I will allow Trevor's letter because he does have a valid point. He says:

"In reply to the reply from Peter (CBA Jul/Aug) I wish to point out that he has missed the most important point concerning the incident where the Popanyinning operator was harassed. This operator had no inclination to use the Boyup Brook Chan 4 repeater as he was conversing happily on the Lancelin Chan 4 repeater during a time of substantial inversions.

Don's version of "a monster skyhook" works well, but, isn't as pretty as Mobile One's new Skipchaser (see Log Book).



Seeing as the Boyup Brook repeater has no tail (so you think you are not accessing it) he had no idea that he was dual accessing the two repeaters, and therefore upsetting some operators who (as they say) don't know where their on/off switch is or how to use it.

It is about time some of the operators in that area realised that these inversion conditions do exist from time to time, through no fault of any operator. Seeing as I, along with other local CB operators, have spoken from Busselton WA to Mortlake Vic through a repeater, a distance of over 2,500 km (perhaps an Australian record), you can easily see that anything is possible. Furthermore, if the group wants privacy then a private commercial repeater is all that is necessary.

Trevor, WCB659."

I agree with the bit about inversions Trevor, but I think a couple of your points are a bit harsh.

For instance, what use is the on/off switch if you have the base set on and waiting for one of your mobiles to call in with a problem? And the idea of the Boyup Brook repeater is to provide a link for all the people in the area who own CBs, not to involve them in the expense of buying commercial gear.

I hope that ends the debate.

★ ★ ★

Seeing the MONSTER SKYHOOK in Log Book (page 9) in the last issue reminded me that I have one that might interest someone. I made it to be independent of the terrain (in that I am not looking for tie-down points), easy to erect (less than five minutes) and so the van can be moved without dismantling (not past power lines of course).

The mast is made of three pieces of aluminium tubing 1.6m long of 19 mm, 22 mm and 25 mm OD. The bottom piece sits over a bolt in the roo bar and the two upper pieces have bolts through them about 100mm up from their bottom end and the bolts sit against the top of the section below.

The three pieces are reversed and slide inside each other for stowing. The top-knot is a 200 mm length of 22 mm OD flattened for about half its length and bent at 90°.

A UHF type antenna base is fitted to the flat part and the round part has wire loops through its upper end as tie points for the guy ropes. This piece simply slips over the top of the mast and the guy ropes hold it down.

The rear guy ropes terminate in wire hooks which slip into slots in the body where the door hinges fit, so the doors can be used while the mast is up. The front guy rope ends with a small aluminium cup which hooks over the end of a 12mm steel rod shaped so that it fits easily to the roo bar and will not swing sideways. The steel rod is set so that it has to be 'sprung' about 150-200 mm to fit the guy rope. Too much tension causes the mast to bow in the middle, but it is light and flexible and has stood up to some pretty strong winds.

Before fitting the top-knot I simply screw up a vehicle antenna for the frequency I want to use — I have tried a lot between 27 MHz and 477 MHz and they all work well, it is surprising the difference a bit of height makes sometimes — and a nine foot stainless steel whip up there makes it almost as good as a 27 MHz home base.

★ ★ ★

To change the subject, I also had a letter from WAZ189 Max and Elizabeth, his "other half". It seems they recently purchased a Uniden, Sundown Series 2, UHF set and were quite surprised at some of the information given in the Owner's Manual supplied, so they sent me a photocopy of it.

On page 5 of that booklet we read:

"2. CHANNEL SELECTOR SWITCH: This switch selects the desired channel for transmission and reception. All channels, except channel 11 may be used for call channel. Channel 11 has been reserved by the DOC for emergency communications involving the immediate safety of individuals or immediate protection of property. Channel 11 also may be used to render assistance to a motorist. This is the DOC rule and applies to all operators of citizen band radios."

I hope Santronic Agencies can catch up with the unsold sets and slip in an amendment before too many new-chums get the wrong idea.

Some people, those who have not read the fine print in the regulations, might disagree, but, I believe it could be made accurate by inserting "Channels 5 and 35" instead of "Channel 11" in all three instances.

I know the booklet was printed in Taiwan, but surely somebody could do a bit of proof-reading before this sort of thing is put on the market.

While we are on the subject, how about suppliers including a bit of information about the havoc that can be caused by using channels 31 to 38 and inadvertently triggering a repeater, or using channels 1 to 8 simplex in a repeater covered area?

Yes, I know, they could double the size of the booklet and still not cover everything — but even a little bit of extra information would be a help.

★ ★ ★

Now for the useless information department.

In the Rig Review on page 13 of the last issue, the writer was a bit puzzled by the use of the name KARATE for UNIDEN'S 27MHz hand-held emergency radio — me too, but, I had the edge on him because my wife is Japanese and I speak a bit of the language.

Having dusted off our "Courtship" dictionaries (I'll tell you about that later), we can say for certain that we are still not sure what they are getting at — but we can give you some background to it.

The word KARATE, as a martial art, is really two words KARA TE meaning Empty Hand, but the word KARA has several meanings, such as Empty, Vacant, a Husk and From, so take your pick.

We came up with three possible reasons for the name — Emergency Radio "Quick and Efficient" as in the martial art — Empty Hand Radio, you don't carry it around but it's there if you want it — or Emergency Radio "From the Hand".

Your guess is as good as ours.

Getting back to the Courtship Dictionaries.

If you want to know real frustration, try telling somebody that you are mad about them when neither of you knows any more of the other's language than "Hullo".

"Hullo" is a good start but it has its limitations, so I dashed out and bought a couple of dictionaries — English-Japanese and Japanese-English — to assist the courtship. I think I won her more by persistence than by my linguistic talent, but the dictionaries must have helped.

After thirty-five years together we don't use them very much now — which is probably just as well because they are starting to look decidedly frayed around the edges.

★ ★ ★

Another comment on the last issue concerns the item on page 52, Cheap Temporary 27 MHz Antenna, in which I found three points to question — picky sod that I am.

First point is that the text mentions 104 inches per side for the elements but the diagram shows 41 cm. A check of my double-sided tape showed that 104 inches is 2641 mm, so that might explain how the error crept in. (Boy, have we had some mail about this one. Ed.)

Some of you might have noticed that a quarter wavelength was shown, on page 32, as 2 m 65 cm (or 2650 mm) — don't worry about it, the extra 9 mm will change the resonant point by only five or six channels (the shorter the antenna the higher the frquency).

The second point came toward the end of the text where I read: "As most CB signals are horizontally polarised, it's best to try and mount this antenna vertically . . .". There's something a bit odd in that statement — I think for "horizontally" one should read "vertically".

The third point is in regard to the coaxial cable — why 72 Ohm??

I know the characteristic impedance of a dipole is 72 Ohms and using 72 Ohm coax will give an almost perfect match at the feed point, but the transmitter is looking for 5 Ohms impedance so, unless you use a balun (50 to 72 Ohm transformer) somewhere along the line, the mismatch is still there.

What difference can it make if the mismatch is encountered at the start of the coax, using 72 Ohm, or at the feed point of the antenna by using 50 Ohm coax?

I have made several of these antennas in the past — never with a balun and always with 50 Ohm coax (who doesn't have bits lying around, so why buy 72 Ohm) — and they definitely work.

★ ★ ★

Well, if the photo I have included is suitable for printing (and I hope it is or you will be groping in the dark with that bit about the mast), I am just about out of space — so, cheers for now, catch you all next trip.

For new readers the address is PO Box 31, Bunbury, 6230 and I do like getting mail — but get it to me by 2 Sept if you want a mention in the next issue.

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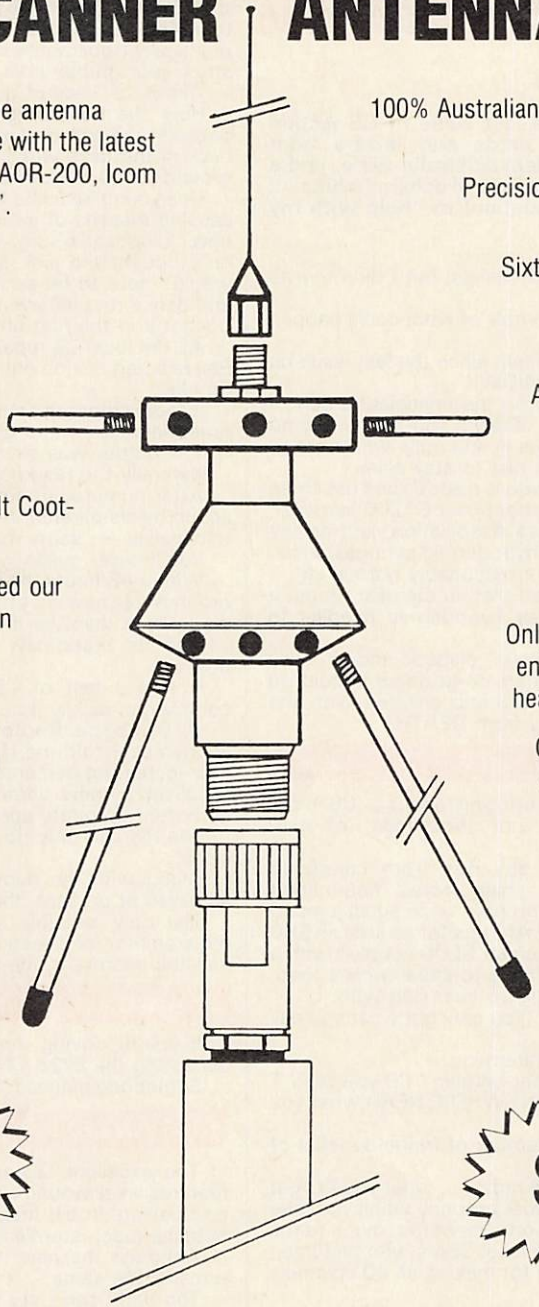

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TEST REPORT IN SEPTEMBER 1987 CB ACTION

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QUEENSLAND SCENE

My segment on diabetes in the last issue of CB Action brought in over 100 calls and cards and letters from concerned Queensland Scene readers Australia-wide, and a couple of readers even enclosed a couple of dollars (which I'll be donating to the Diabetes Association) to "help with my medical expenses".

I had no idea I was so popular.

In sincerely appreciate all the good wishes, but I didn't write the segment to attract sympathy.

I wrote it as a WARNING . . . an example of what could happen to YOU!!

If you haven't had a blood-glucose test since the last issue hit the streets . . . GO AND HAVE ONE NOW!!

I've got a few cents socked away so the financial burden of being a diabetic hasn't affected my lifestyle too badly, but no doubt there are thousands of diabetics in Australia who have to scrape the bottom of the piggy-bank just to stay alive.

I spoke to a Sydney CBer recently who is diabetic and has three diabetic children. He told me that he spent over $1200 last year, even after subsidies from the Diabetes Association, just on the basic blood-testing paraphernalia — hypodermic syringes, insul, etc — which diabetics need to lead a reasonably normal life.

The government has just announced that, in the near future, it will begin supplying junkies with free hypodermic needles to protect them from AIDS.

Maybe I'm a bit radical, being a "new" diabetic and all, but I feel that these misguided bleeding-heart do-gooders should be looking at providing the parents of diabetic children with the things they need to protect their kids from DEATH.

EL CHEAPO AM RIGS

Improving "skip" conditions are bringing about a CB mini-boom and attracting hundreds, if not thousands, of new operators to the hobby.

Many of these newcomers will buy rigs from car-sound discounters, auto accessory shops, chain stores, flea-market stalls and similar "fringe dwellers" who have once again jumped on the CB bandwagon . . . grotty little AM rigs for as little as $60 or cheap-and-nasty SSB rigs for well under $200 coupled with a $10 throwaway antenna you wouldn't use to spear a cane toad, and a base and lead not even fit to tie up your dog with.

There's an old saying which goes, "You only get what you pay for."

El Cheapo CB rigs disprove this statement.

If you're silly enough to buy a "super-bargain" CB you DON'T get what you pay for. You don't get ANYWHERE NEAR what you pay for.

What you DO get, however, is a number of fringe benefits of dubious value thrown in for free.

What you DON'T get is a decent CB radio . . . what you DO get is a pile of junk which either doesn't work properly when you take it out of the box, or dies in the bum soon afterwards, much to the relief of your TVI'd neighbors and the local CBers who had been planning to give you a 27MHz enema for making all 40 channels unusable.

What you DON'T get is decent after-sales service . . . what you DO get is the old "we-only-sell-the-bloody-things-mate-it'll-have-to-go-back-to-the-importer-for-repairs-and-it'll-take-a-few-weeks" line.

If, by some strange quirk of fate, your junkbox works for more than a couple of weeks, what you DON'T get is a friendly welcome to the CB radio hobby . . . what you DO get is abuse from your neighbors and the aforementioned Enema Patrol, and quite often an unfriendly visit from the local RI who tells you that your brand new toy is off-air until you have it cleaned up.

What you DON'T get is "off the hook" by taking the rig to a decent CB technician . . . what you do get is a sarcastic laugh or a snort of derision as he tells you that the best thing you can do with your pride and joy is (a) place it gently on the ground in front of your back wheel and run over it as you drive away, or (b) remove the knobs, file off the sharp corners, and coat it liberally with Vaseline while waiting for the Enema Patrol to arrive.

Apart from the fact that newcomers to the hobby are wasting heaps of money and often becoming disillusioned with CB radio right from the start, the spectrum is rapidly becoming POLLUTED with spurious crap from these rigs which, in many cases, would cost more to RI-proof than the original purchase price.

Years ago an RB249 identification number on the back of a transceiver meant that this particular make and model had been thoroughly inspected and tested by DoC technicians and was practically a guarantee that a rig was RI-proof . . . at least until you stuck your grubby little fingers inside it.

Almost a "seal of quality" you might say.

How the hell some of the currently available rubbish ever passed type-approval has got me stuffed. The quality was better back in the days when Australia was being used as a dumping ground for all the outdated 23-channel rigs.

One young Redcliffe CBer was ordered off-air early this year for causing masses of interference to all and sundry with his shiny new "disposable" rig. When he complained to the store where he'd bought the junk a few days earlier, he found that the rig would "have to be sent to Sydney for repairs" (the usual song and dance routine) even though it was obviously crook when he bought it in the first place.

All the local CB repairers (including the one suggested by the RIs) rejected the job outright, so the rig had to go south to The Big Smoke.

It took almost three months for the rig to be returned — really great service — and guess what?

The output was even dirtier than it had been originally.

Naturally the RIs knocked it back.

After numerous complaints and threats of Consumer Affairs action by his parents, the kid eventually was given a replacement transceiver — same make and model.

You'll never guess what happened next.

Within 48 hours the RIs were knocking on his door again, and ordered this new rig off-air for causing masses of interference. It was worse than the first one!!

Another brand-new TYPE-APPROVED transceiver bites the dust!!

It was a fact of CB life for many years that interference complaints usually pointed to a cranked-over transceiver.

A Brisbane Radio Inspector (who wishes to remain anonymous) told me that recent investigations indicate that an ever-increasing percentage of TVI and interference to other users is caused by new, unmodified CB rigs of poor quality rather than by hotted-up pirate specials.

The RIs can only do so much towards keeping the spectrum clean.

Faced with the number of junk CB transceivers hitting the airwaves at present, they're fighting a losing battle.

The only sensible solution is to tighten up type-approval requirements and testing and prevent this rubbish from coming into the country in the first place.

IT'S GONE!

If you're driving through Walcha (NSW) you'll have trouble accessing the 8/38 UHF-CB repeater.

Somebody pinched it to celebrate the end of the financial year!

M-6 ANTENNA

The excellent Queensland-made M-6 UHF-CB antenna now features an airwound centre coil in place of the original fibreglass-encapsulated coil, making its performance even better and the antenna much sturdier all round.

Although the new model costs more to produce, the price remains the same.

Too bad I can't say the same thing about my new car.

WHERE DO YOU PUT IT?

Speaking of new cars — because of space limitations and interior configuration, most current brands and models, even full-sized "family" cars and four-wheel drives, are a nightmare for anyone wanting to install an SSB rig.

AWA/Clarion sold a split AM system (transceiver mounted under the seat or in the boot and controls in the microphone) back in the 18-channel days, and Uniden still has the split 40-channel PC-22 AM in its range, but, as far as I know, there isn't a split SSB rig currently available anywhere in the world. The now-defunct American CB manufacturer CPI marketed its CP-2500 split SSB rig years ago, but very few found of these found their way into Australia.

I reckon any manufacturer producing a decent split SSB system in the near future will take over the market.

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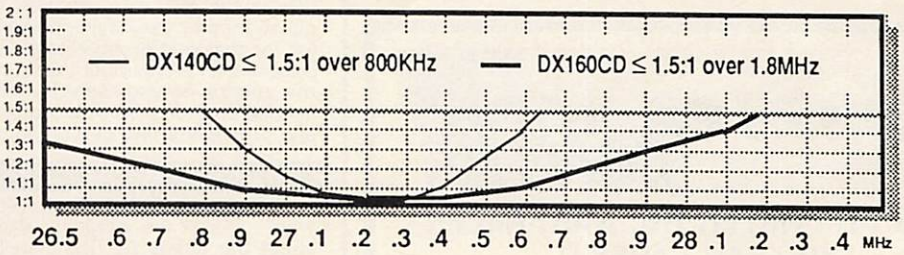

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MAX.POWER	60"=100 W -- 25"=50W
TERMINATION	5/16" x 26 TPI FEMALE
PATTERN	OMNI DIRECTIONAL VERTICAL
APPLICATION	ROOF or GUTTER MOUNT
VSWR	≤ 1.5:1 over 1.8 MHz for 60" / 800KHz for 40"

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Greg Towells reports on. . .

UHF NEWS and HAPPENINGS

Welcome to the September/October review of the last few months of UHF news and happenings around the country. Please remember if you have anything you wish to see in this column, it must be at my P.O. Box no later than two weeks after this issue hits the news stands.

SYDNEY REPEATERS BACK

Maybe it was only extremely good timing but only days before July/August edition of CBA came out (with my comments about the non-appearance of Phillips' 3/33 and 7/37 repeaters in Sydney), as if by magic, both 3/33 and 7/37 blasted forth on an unsuspecting Sydney UHF community (maybe dribbled onto would more describe 3/33's first few appearances).

Both repeaters seemed to have very different coverage areas with many stations who could previously power into their respective repeaters, now little more than pitiful mudstations.

One point that seems to have emerged is that most of the more regular nuisance stations that previously dominated said repeaters are very noticeable by their absence, the end result being two very useable repeaters now operational for Sydney users.

Now, before anyone thinks that I have changed my line of thought regarding repeater owners/operators turning on and off repeaters when the hobbos overpower the commercials or the regulars, forget it!! In the case of 3/33 and 7/37, one of three things has happened to the vandals who used to assault those repeaters.

(1) They have given up harassing other operators and have gone back to quiet conversations or simplex channels;

(2) There being no repeater to ratbag on, they have simply got bored and sold up; or

(3) They have returned to 27MHz, generally 35LSB, to harass the mounds of intelligence there. The only thing repeater owners/operators achieve by turning off repeaters is inconvenience to the majority of repeater users, many of whom find other more reliable ways to communicate, never to return.

Meanwhile, the old ratbags return to achieve their aim of upsetting the maximum number of users, and the ultimate disruption is having the repeated silenced.

I HOPE this gets through to those repeater owners/operators who insist on playing God and DOTAC wrapped in one with their repeater!!!

CENTRAL BOAST BLITZ

Those people fortunate enough (or otherwise) to be heading through the Central Coast area of NSW would do well to do their trip in a defect-free vehicle, do less than the speed limit and carry lots of CB and other radio licences.

Over the last few months, the DMT, DOTAC and the local police have been hitting many truckies, motorists and anything else that moves with a combined blitz on defects, speeding and unlicensed CB radios.

One of the local papers in the area reported something like 190 vehicles alone being stung for unlicensed CB radio operation. Truckies seem to be the main offenders, however the hordes of holidaying motorists come in for a lot of attention as well.

The best piece of advice would be this. Make sure that ALL your radios are licensed, and carry photocopies of these licences. This should ensure that you are not unduly harassed regarding the CBs in the car. Also, another point for anyone pulled up and questioned by the local upholders of the law on the Central Coast (or for that matter anywhere!) is to be as polite and helpful as possible, and remember that state police have the right to inspect the interior of your vehicle, including your CB radios. A bull-headed attitude here by a motorist can lead to a prolonged stop, and probably a few defects into the bargain.

POLICE SEARCH

Having said all that, I must report the case of an acquaintance who suffered the indignity of a police search and questioning about the radios he had installed in the vehicle. The incident occurred in the Central Cost of NSW district, and the police officers took an extreme interest in the possible capability of his UHF radio to receive law enforcement traffic.

The fact that a Royce TS133 has SCAN written near one of the controls rather upset said officers, since the car was thoroughly searched, and serial numbers taken, with the result being one very shaken UHF operator taking steps to carry his CB licence in future. Better luck next time, Rodney, and good thing Wayne was not on board, otherwise we would have witnessed the demise of the 'Music Man'! Also thanks to the reader on the Central Coast who took the time to send me the cutting from the local paper regarding this story.

Good one Phil, and hi to you and the family.

By the way, there must be more than two hobbyist UHFers on the Central Coast, and at least a few radio clubs in the area, particularly around The Entrance area. If there are, please drop me a line on what's happening around there. I will be more than happy to hear from you, and besides, what would be the use of me erecting a massive set of antennas for UHF (and 27MHz) in the area if there are not many people to swap yarns with. By the time you see this issue on the Central Coast of NSW, hopefully I will be within simplex range of you all!!

CAPTAIN COMMUNICATIONS

My thanks to the helpful staff at Captain Communications for their extreme haste in bringing to my attention the newest UHF release from Standard Communications, the Electrophone TX-472S. What a radio! The most outstanding feature to be added to this range is the microprocessor control, enabling front panel programmable control for the new Open Scan and Group Scan functions.

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The Open Scan mode allows scanning of all 40 channels in ascending order, the Group Scan allows for the Priority Scanning of the channel as selected by the channel switch, whilst scanning a group of channels, which are fully programmable by the operator (looks like somone at Standards listened to the complaint which followed the release of the TX-472D!!).

And if all this starts to get too complicated, and/or you feel you are losing control of the radio, simply press the Normal/Scan button to get the radio out of the scan mode.

TX-472S A DELIGHT

My hands-on session with the TX-472S was a delight. The Scan functions were a breeze to operate, with the advantage of being able to return the radio to a 'normal' mode of operation, without fancy scan functions going on. The transmitter and receiver of the unit (the most important part) acquitted itself very well.

My final opinion of the TX-472S is this is a radio for everyone, and for any use. It combines the simplicity of a no-frills radio necessary for mobile operation, yet has all the scan, priority facilities available only on radios like the Sawtron 999, WITHOUT a complex keyboard.

A real winner for Electrophone!!!

PB-60 UHF ANTENNA

Another UHF product I have had the great pleasure to play with recently is the Power Band System, the PB-60 Hi-Gain mobile antenna system. The PB-60 is described as a high gain, ground independent mobile antenna, offering 6dB gain. The package comes with a unity gain and 6dB whip, interchangeable depending on the conditions. Since there is a wide range of other hi-gain antennas available for UHF, it was easy to begin a comparison against the PB-60.

The system is easy to install, and has the advantage of using a whip style rod, rather than the ungainly and unsightly steel rod. But to the test. First was the comparison against a standard 4.5dB whip, the result was a non-contest in favour of the PB-60.

Next was against the common 6dB steel rod type, with the PB-60 edging out the other, in fact the supposedly 'unity gain' gave the competition's "6dB" a run for its money.

My final opinion is a thumbs up to the PB-60.

After some time installed on the top of my paddock-basher, the performance confirms first impressions of a rugged unit (having survived a few belts against the local parking stations).

My thanks to Powerband and the friendly staff for the opportunity.

COMMERCIALS ON UHF

A number of people have written after my comments about commercial sparking themselves on UHF channels and denying all other users access to same. A surprising number wrote from country areas with the same problem being experienced by farmers and the like.

It seems that the problem there is exactly the same, with said farmer equipping the vehicles, home, harvesters, trucks, and anything else that moves with UHF CB, then completely monopolizing a channel of his choice.

Anyone else outside his select circle who dares to use the channel gets a mountain of abuse, jamming, etc, for his troubles. My correspondence reports any attempt to reason with many of these people meets with a brickwall of a response, as does any enquiry regarding the farmer's licence.

Now, while not every commercial or farmer using UHF CB adopts these tactics, enough do, and they are creating a problem, as well as an excellent medium in which to create lifetime enemies. One suggestion was for DOTAC to do a run through these troublesome areas, while another was to commence group conversations, advancing up one channel a week to point out to these hogs that all the channels are for all to use.

One last, late word on the UHF scene concerns the Sydney repeater network. At the time of writing this column (1930 hrs, 10th July '88), there are six repeaters accessible from my location. The reason for quoting the EXACT time?

Easy, it seems that, with the exception of channel 1/31, any of the others can be, and are, switched off at the drop of a hat, depending on the whims of the owner/operators!

Can anyone tell me why?

That's all for this time.

News to: G. Towells

THE ICOM u2A/A FROM THE CAPTAIN

Captain Communications of Parramatta is now stocking the micro-sized ICOM handheld series — the ICOM u2A/A. The palm-sized transceiver represents a breakthrough in 2 metre "go anywhere" technology. Measuring just 4.6" high, 2.3" wide and 1.1" deep, the IC-u2A/A packs more features than large transceivers.

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For further information on ICOM products call or fax the Captain.

Phone (02) 633 4333, Fax (02) 891 2271.

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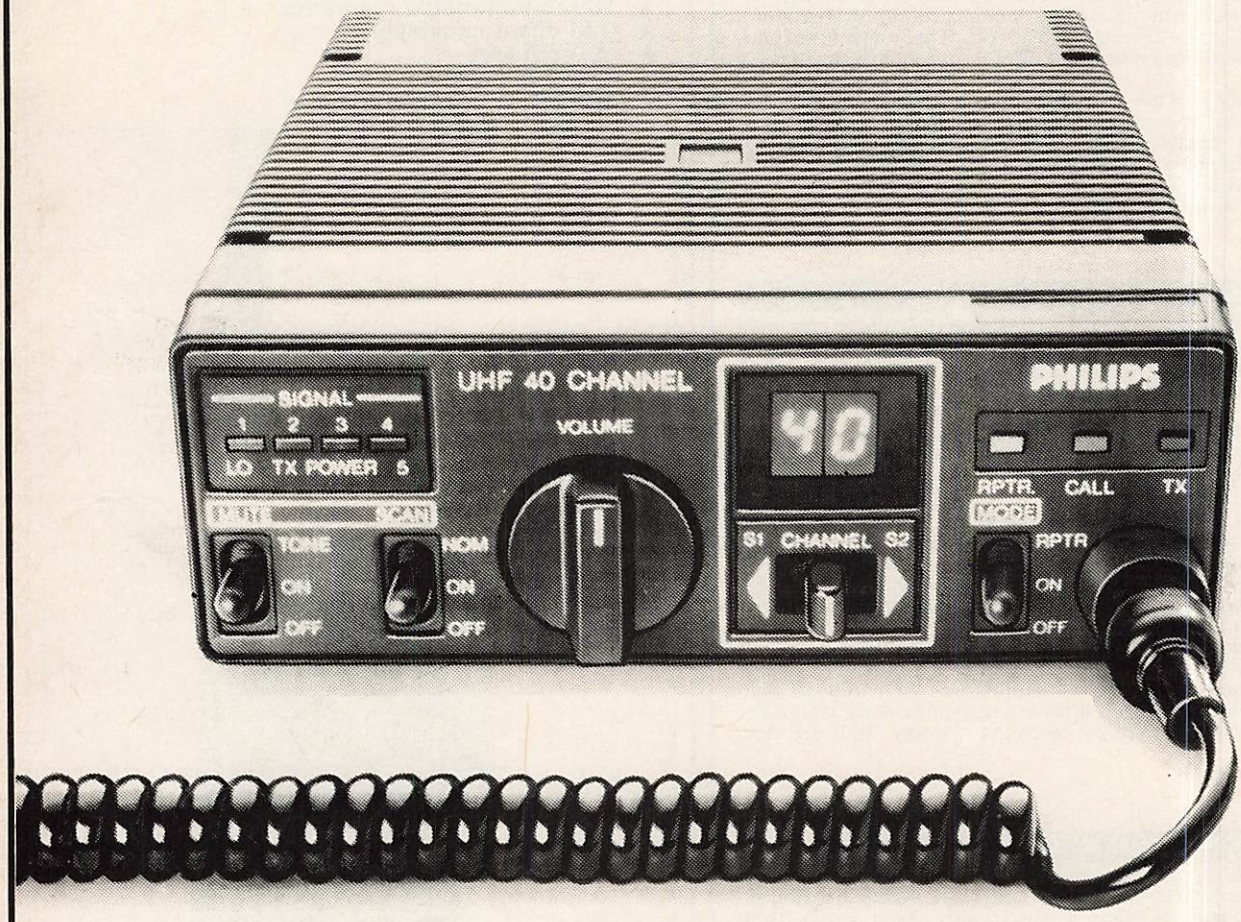

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HATADI'S LATEST BIG CAT

The latest big cat to stalk into the Hatadi Electronics Corporation line-up is the all new 27 Mhz Super Lion Mk II. It's a nice rig with plenty of bells and whistles and will certainly find favor with all Pearce-Simpson fans.

Hatadi's latest AM/SSB 27MHz offering presents as a well packaged, fairly large, predominantly charcoal in color, attractive looking CB transceiver.

The front panel is well designed with a brightly lit edge-reading meter to indicate signal strength, output power and standing wave ratio (SWR). The channel display uses red LEDs combined with individual LEDs to indicate the operating mode e.g. AM — LSB — USB. The line of six rotary knobs are adequately spaced and because of the shade shaped handles only a glance is necessary to note the exact position of any particular control.

The function switches are also suitably placed and well labelled. All in all, a well thought out, easy to operate, line-up of controls.

The black painted case halves are held in place by 8 'self tappers' — we would prefer to see machine screws doing this job. The chassis is pressed steel with the rear panel — which doubles as a heat sink — made from aluminium, again assembled with self tapping screws.

The circuit board is single sided and uses conventional component insertion methods with wire links to join various copper tracks.

The component placement in this rig is good and certainly leaps and bounds ahead of many Korean sets we have been in the past — they have definitely lifted their game. The 'Wave' soldering on the main board underside is also good.

The microphone socket is mounted on the left hand side — it will please some and infuriate others who prefer it on the front panel. However, if it were on the front it would certainly spoil the neat panel layout both aesthetically and operationally.

The microphone is black and nicely shaped and, except for its color, it bears a striking resemblance to the Electrophone unit reviewed elsewhere in this issue — or is it the other way round.

Whatever the case it is more than adequate for the job at hand.

THE CONTROLS

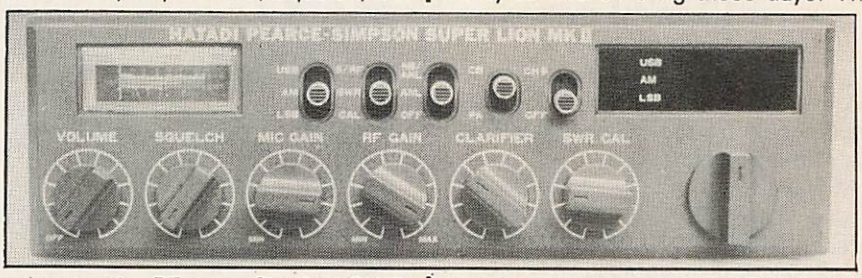
From left to right, the control functions are On/Off/Volume, Squelch, Microphone gain, RF gain, Clarifier, SWR calibrate knob and finally the channel selector. Not much to be said about the volume control — however the squelch is a different story. The squelch action is smooth to open and has a long hysteresis (once open it takes a while to close after the signal is removed) and we found it a bit tricky to adjust the threshhold.

The book tells us that the threshhold (the finest setting) is 0.2 microvolts. The best we could achieve on AM was 0.4 microvolts and on sideband it was noticeably higher, opening at 1 microvolt. The microphone gain has a full range from no output at all right up to more than enough level for the weakest voice. It allows the operator to adjust the sideband output power level over a substantial range and can really put some 'guts' into AM transmissions if the level is 'wound' up.

RF gain controls the sensitivity of the receiver — this feature is often used wrongly by inexperienced operators. It is not a substitute for the AF gain (volume) and although it might control the volume it can also degrade seriously the receiver's performance if used incorrectly. The Lion's RF gain offers a full 34dB range, which, in simpler terms means a level change of more than 2,000 times. The RF gain is mostly used to reduce the incoming power from very strong (overpowering) signals.

Clarifiers allow you to fine tune received SSB signals and the Lion's clarifier has a range of +/-2.5kHz which is more than adequate for all but the very worst off frequency signal. Many rigs only offer about +/-1kHz variation which can leave you wishing you had more range.

The SWR Calibrate knob is a bit of a rarity to find on a rig these days. The Lion incorportes its own VSWR meter which allows the operator to test the tuning accuracy of the antenna and if necessary it aids making adjustments to the antenna. Unfortunately the 'Owner's Manual' offers little instruction on how to use the meter.



Like most CB radio 'S' meters the accuracy leaves a lot to be desired, however, it does provide a good reference of relative signal strength. The SWR readings are accurate enough to be useful as are the output power readings. The noise limiter and noise-blanking circuits operate well and are able to handle most types of noise that are thrown up by average electrical interference sources.

If you need a PA facility in your rig the Lion's PA works as well as any other we have encountered. A channel

Continued over . . .

RIG REVIEW

HATADI'S LATEST BIG CAT (continued)

9 emergency channel switch is included although popular consensus suggests that most operators would prefer a channel 8 failsafe switch. The channel 9 facility seems to be 'big' in rigs intended for the American market.

PERFORMANCE

The Lion MK II receiver is quite sensitive by most CB standards and using the 12dB SINAD method the test rig turned in 0.25 microvolts on sideband and 0.3 microvolts on AM — in both cases the RF gain was set at maximum. The Lion made the figures quite easily. Some other rigs we have tested recently were quite sensitive but the signal was distorted at low levels.

Receiving AM signals on the Lion was comfortable and the rig shows an acceptable resistance to overload from quite strong signals. Recovered audio is clean and pleasant to the ears — partly due to the large speaker.

On SSB the Lion's performance is good, however, we found that the best results could be obtained by judicious use of the RF gain control.

Medium to strong signals benefited in tone by using the RF gain control to reduce the power of the incoming signal and this was reflected in an immediate improvement to sound quality.

After all, this is primarily what an RF gain control is best at and the Lion's does the job well.

The Lion has average resistance to out of band and adjacent channel interference and like most rigs will suffer from a strong neighbouring station. The Lion's transmitter is a good performer on both AM and SSB.

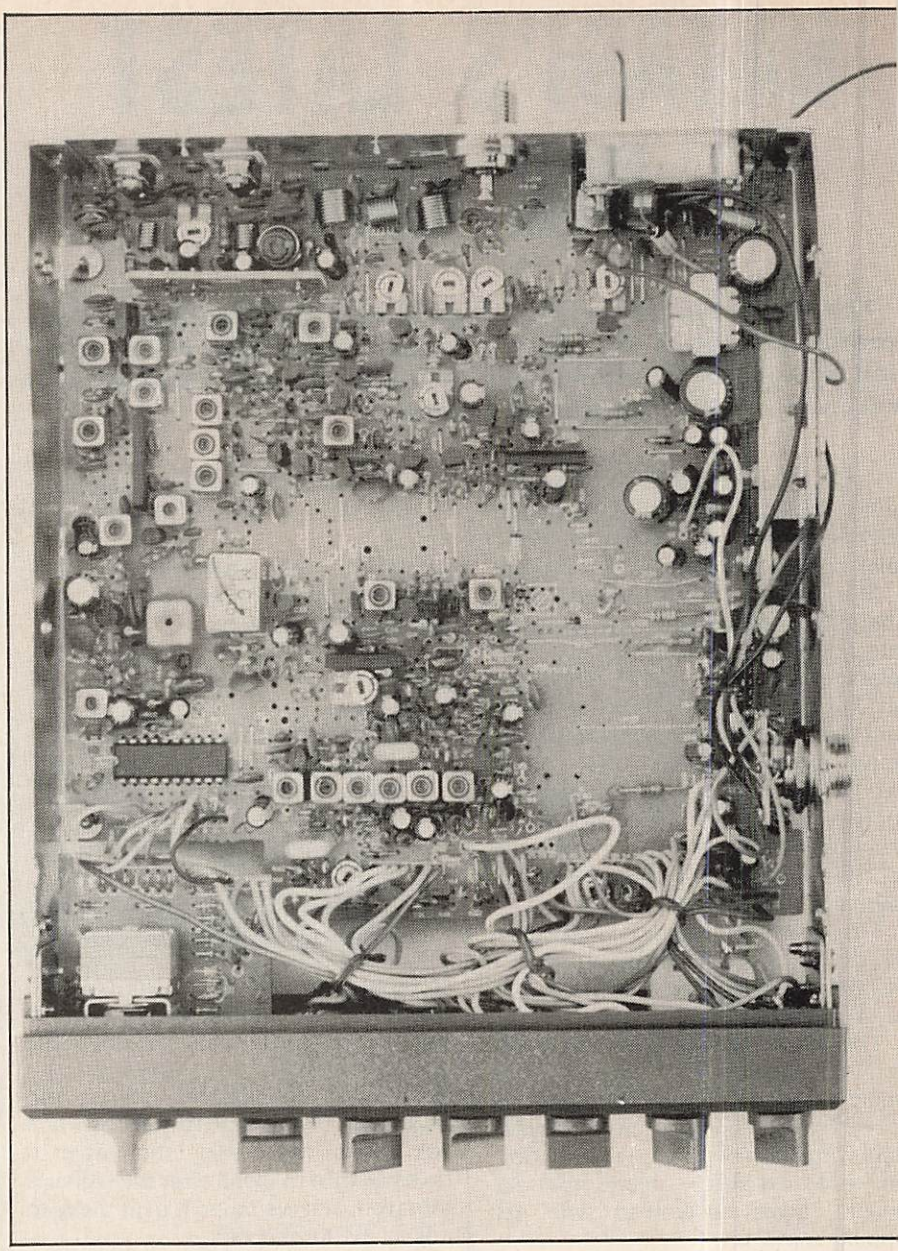
AM modulation of 100 per cent is easily reached but is well controlled internally making it difficult to overdrive and cause splatter.

AM output power was 4 watts RMS with a supply voltage of 13.8 volts. Adjusting the voltage between 12 and 15 volts did not affect the AM output power, however, there was a noticeable change to sideband levels.

Average SSB output power was in excess of 15 watts PEP (peak envelope power) at 13.8 volts.

Frequency accuracy was excellent for AM and both sidebands and there was very little drift after the standard five minute continuous transmission test. No appreciable change in output power was noted either.

Everyone we talked to on air liked the signal except for one bloke who reckoned we were off frequency a bit — we soon put him straight.



Component placement is good with sufficient working space if and when it is necessary for a technician to delve into the internals.

SUMMARY

The SUPER LION MKII looks great and performs well. Its performance is good in most respects and the single sided circuit board should offer greater reliability than some of the double sided boards from our Asian neighbours.

At the present high cost of simple SWR meters the Lion's inbuilt tester has to be a bonus and certainly convenient to use.

Hatadi and Pearce-Simpson have both been around for a long time and this lengthy experience is reflected in this latest rig.

Also, being the latest model, the charcoal colored exterior finish looks considerably more "1988" than do a couple of the older models.

We would like to see a bit more information in the Owner's Manual, however, it does include a small schematic diagram and a operational block diagram which can be invaluable when the rig requires service.

Thanks to HATADI ELECTRONICS CORP for supplying the SUPER LION MKII for review.

RIG REVIEW

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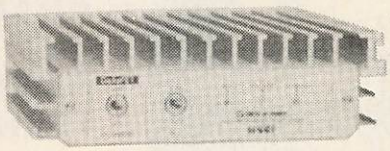

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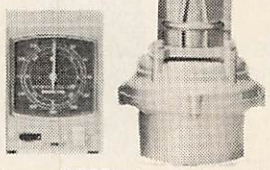

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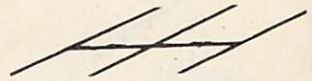

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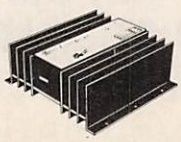

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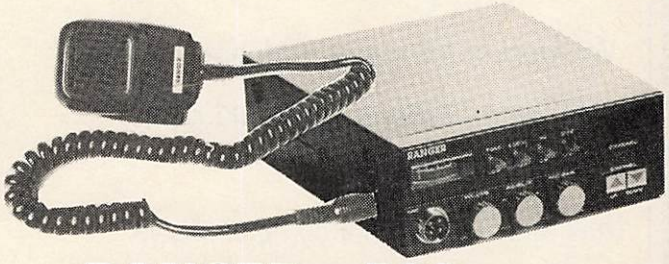

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NEW ZEALAND CATCHES UP!

40 channels, sideband and even 10kHz spacing — on Friday July 1st, New Zealand CB entered the 80's, reports David Flynn.

After years of waiting, it has finally happened — New Zealand CBers now have a full 40 channel, AM/SSB service.

Okay, they're still on 26MHz — but then who said life was easy?

Far from being dissatisfied, our Kiwi CB cousins are overjoyed with the decision, according to our sources.

The new allocation, from 26.330-26.770 MHz, comes after many years of lobbying by the CB Radio Association of New Zealand (CBRANZ). It replaces the former long-standing 14 channel AM-only service, which has been incorporated into the new band. Power output levels have been set at a familiar 4 watts AM and 12 watts SSB.

By the time you read this, hundreds of Kiwis will already be eagerly firing across the islands on SSB, whilst others seek solitude in the new and as-yet uncrowded channels.

There's also a pleasing cost benefit, too. Many NZ CBers purchase transceivers from Australia and have them modified to the NZ specification — at an average cost of $A130, said one New Zealand CB technician.

The new 40 channels adopt identical spacing to the Australian bandplan, even to the same occasional 20kHz jump in the bottom half of the band and the allocation of ch's 24 & 25 between 22 & 23. This makes an NZ modification little more than a slight drop in frequency and a re-tune, with the resulting conversion cost likely to fall by as much as half.

The NZ RF Service (equivalent to Australia's DoTaC) had hoped to initiate the move to 40 channels in April, until discovering that its original plan incuded a frequency used by Christchurch University for propagation experiments at a power level of 1kW. The allocation was revised, and now carefully avoids the Christchurch kilowatt.

The CBRANZ has formulated a bandplan for the new service, recommending that AM only be used on ch's 1-24, and sideband only (either USB or LSB) on ch's 25-40.

Ch. 15 (26.500MHz), formerly NZ ch. 4, remains the calling and emergency frequency, and all transmissions will continue to use AM only on this channel. For the time being, SSB stations will call on 15AM and then move to a sideband channel. The CBRANZ expects that a separate SSB-only calling/emergency channel will be established once sideband operation becomes popular.

Older 14 channel rigs may still be used, even though the 25kHz spacing they employed has now been removed in favor of the standard 10kHz spacing. Hence, only half the channels on a 14ch. rig (the even-numbered ones) can be used.

As for 27MHz, this has long been recognised as a 'no go' area for CB in New Zealand, as its TV channel 2 sits on 54MHz. Being exactly twice the frequency of 27MHz, local adoption of 11 metres would be simply begging for nationwide TVI.

On the brighter side, the NZ RFS is considering the introduction of our 477MHz CB service. But hopeful Kiwi ewe-HFers are not holding their breath, as the authorities have been "considering UHF CB" since the CBRANZ's first proposal in 1982!

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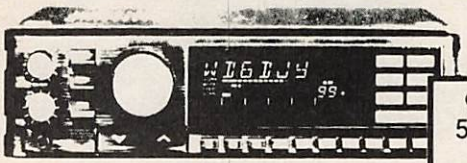

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RANGE

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Specifications: Frequency Range: 500kHz-905mHz Mode: A3(A3E) (AM). F3[F3E] (FM) Circuitry: AM, FM(N) = Triple conversion system FM(W) = Double conversion system Sensitivity: AM (S+N/N = 108dB) = Less than 5uV (BC band 10uV). FM(N) = 12dB SINAD less than 6uV (500kHz)-60mHz) less than 3uV (60-905mHz). Operating Temperature: -10°-+60°. Audio Output Power: 2W (at 8 ohms load 10% distortion). Current Drain: Less than 1A (audio power utput 1W). Atnenna Impedance: 50-300 ohms. Power Requirement: 13.8VDC +- 15%. Dimensions: 180(W) x 50(H) x 158(D) mm. Weight: 1.5kg.

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WRITE FOR COLOUR BROCHURE & SPECS

od Quality in the . . .

SUNDOWNER UH-007

THE UNIDEN Sundowner Series II has been around for quite me time and yet we previously haven't taken the time to view this pleasant little UHF rig.

The Series II (model number UH-7) is packaged exactly the same as UH-001 and at a glance it is hard to the difference. The only obvious erence is the presence of a LED sig- strength come RF output indicator ploying five separate LEDs.

The UH-007 uses a pressed steel aluminium frame with the standard stic moulded front panel. Construc- of the chassis is very good and by ng some clever bending techniques he metal work the result is a very rdy but light weight frame.

Machine screws are used through- the rig including those holding in ce the single sided, fibreglass main uit board. The board uses quite a nber of track bridging straps scat- ed among the components and elds.

Like many of the 'new generation' s, the UH-007 has a distinct absence wires — in fact there are only six ort lengths of 'hook-up' wire in the ole rig and two go to the speaker d two more connect the power sock- to the main circuit board.

The main circuit board is connected he front control panel by a series of der blob terminations but unlike sim- construction in some other rigs, the ards are held rigidly in place by met- ork and screws and don't just rely the solder joints for strength.

There are a few 'afterthought' com- nents soldered to the underside of board.

The wave soldering on the main board is excellent — colour, brightness and flow of the solder is just right — like all late UNIDEN model transceivers.

Control Panel

There is not much to say about the control panel layout except that it is uncluttered and easy to use consisting of channel selector, on/of volume control and squelch variable.

The microphone socket is on the front and there are three press buttons for SIMPLEX/DUPLEX, TONE SQUELCH and TONE CALL.

The channel display uses red LEDs and is pretty average in size and brightness.

Squelch control is quite good with its threshold opening level at 0.22 microvolts and maximum setting needs about 1.0 microvolts to crank it open.

The hysteresis is also about average allowing fairly weak 'fluttering' signals to reliably hold open the mute without the chopping sound associated with the sudden opening and closing.

This model has a LED to indicate the DUPLEX function is engaged — unlike the UH-001 which relies on the appearance of the switch.

The 'bargraph' signal strength indicator requires 1.0 microvolt to illuminate the first LED green.

The next two LEDS only require another 0.5 microvolts each while the fourth one illuminates at 5.0 microvolts and finally the red light comes on at 17 microvolts. The scale is quite compressed by 27MHz rig standards but this is generally due to the different way the metering voltage is achieved in FM receivers.

On the SINAD scale the receiver was quite sensitive at 0.2 microvolts for the 12dB SINAD figure.

The receiver suffers the same adjacent channel overload problems as most similar rigs — usually caused by a very strong signal on a nearby channel or by high power commercial transmitters in the vicinity.

The speaker size is adequate to give quite acceptable recovered audio but there is a slight 'hiss' until quite strong signal strengths are reached.

The buttons labelled TONE SQ and TONE CALL are associated with the optional SELCAL function and are not used in standard set operation.

The transmitter output at 13.8 volts supply was 4 watts RMS and as usual with UHF sets was sensitive to line voltage giving 5 watts at 15 volts and dropping sharply to 3.1 watts for 12 volts supply.

After a transmission period of five minutes the output power had decreased by 0.5 of a watt and the rear panel heat sink was quite hot. Frequency accuracy was good and only varied a little during the test period.

The transmitted audio is good and the frequency deviation peaked out at 5.2 kilohertz with loud speech and maintained a good level over a wide range of voice frequency levels.

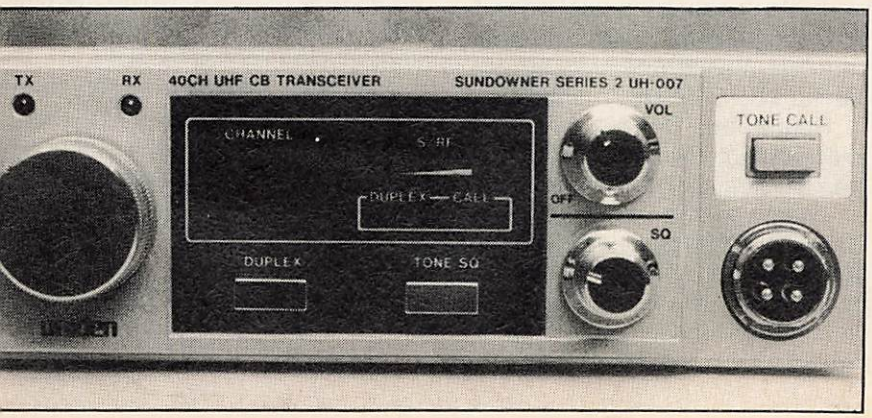
For some reason UNIDEN always detune by about 30 per cent the transmitter on their UHF rigs and this SUNDOWNER was no excepton to the rule. For curiosity we gave the 'trimmers' a quick tweak and the power popped-up as expected. The transmitter uses discreet power transistors to achieve its RF power output as opposed to the large integrated 'chip' used by some other manufacturers.

SUMMARY

The rig is neat and strong and offers good value for money weighing in at the lower priced end of the UHF scale.

The overall performance is good to very good in all aspects and because of the length of time the UH-007 has been around we know it has established a good reliability record.

Our thanks to Santronic Agencies for the review rig.



RIG REVIEW

SCANNING AROUND

By RICHARD BARRETT

By the time you read these words there will have been some changes in CB Action and in this column.

Our revered, all-knowing editor - Peter be his name - has departed for greener pastures but not without seeing the previous issue to bed in his own inimitable syle.

He managed to - correctly -get John Willmott's name at the head of this column and then, with a flash of genius, stated in the Page 3 index that the column was by yours truly.

Normally such a mix-up would be accepted as one of those things that happens in the rush of going to press or, as the late Peter might describe it, "part of our wonderful new management system - a cock-up!"

However, in this case he almost got it right. Two days after the July/August appeared John Willmott was taken seriously ill and I have since been attempting to fill his shoes in a number of roles.

For the next couple of issues, at least, I shall do my best to provide you with a diverse and informative 'Scanning Around' column.

I am sure you will all join me in wishing John a full and speedy recovery.

• • •

John's suggestion that listeners might like to eavesdrop on the Australian Bicentennial Exhibition was taken up by a number of readers who have all reported that the show's frequencies have gone very quiet.

A great many readers have made good use of the Expo '88 frequencies John provided to get an inside look at the Brisbane extravaganza.

The latest information provided by readers on Expo frequencies and their use is as follows -

Ch	*Tx*	*Rx/Use*
1	454.000	463.900 Emergency
2	456.200	465.700 Emergency
3	454.700	464.200 Security patrols
4	455.300	464.800 Security/VIP tour
5	455.575	465.075 Medical
6	467.475	Monorial
7	455.600	465.100 Operations
8	455.875	465.375 Operations
9	456.175	465.675 Control
10	454.675	464.175 Control

A Brisbane reader tells me that all ten channels (and a few of the exhibitors' channels) were going full blast during the recent late night fire in the 'needle' which towers over the riverside site.

• • •

DoTaC's Public Access Radiofrequency Register (PARR) is getting better with each issue.

At long last details of the various Victorian C.F.A. transmitters at Group and Brigade level are beginning to appear in the microfiche.

Each State office has put a lot of work into updating information and correcting errors. There are now very few private users shown as blank "GOVERNMENT' entries.

Regretably, DoTaC continues to list all State and Local Government bodies as 'GOVERNMENT'.

There seems no hope that DoTaC will change its mind on this one, so we will continue to see organisations like sewerage authorities and friendly local Councils treated as top secret.

Victoria's Ambulance Services are gearing up ready for a changeover from VHF to UHF frequencies.

The move was supposed to have started twelve months ago but various problems were encountered along the way.

The network is planned to be just that - not the collection of small nets that currently exists on VHF.

• • •

Still in Victoria, a reader informs me that, during the local constabulary's changeover from VHF to UHF, VKC is operating the following channels –

Ch.		*Districts*
VHF	*UHF*	
1	12/67	'B' and 'Q'
2	69/70	'P' and 'Z
4	68	'Y
7	36/60	'A' and 'I'
8	65/66	'M' and 'V'
9	57/28	'H' and 'U'

I've not been able to discover the freqs. for channels 65 to 70.

• • •

In John's absence I'll have to push my own barrow by saying that the 1988 E.S.G. Frequency Registers for Queensland, Victoria and Tasmania are now on sale.

Each is available in either the normal format (by frequency), or in an all-new format in which the first half has a listing by callsign and the send half by licencee name.

As usual, they're available from your regular CB Action advertisers - Captain Communications, Jensen Electronics P/L and South Pacific Radio, as well as direct from E.S.G.

SCANNING AROUND
G P O BOX 1200
ADELAIDE 5001
SOUTH AUSTRALIA

DX REPORT FROM NEW SOUTH WALES

Compiled by Jack, 67-W-07

Most serious DXers will have noticed by now that DX conditions from erseas have been relatively poor over the past few weeks, signals have en down and propagation opening times to certain countries have been ratic in some cases. But this doesn't mean that there is little or no life out on the radio, there are some reasonably good signals to be monitored om far away lands.

EST AFRICA & DIAN OCEAN

The best times to chase some African seems to be in the mid and late afterons through to the early evening. Judgby reports from Western Australia y seem to get a better bite at the Afri- DX cake than we on the East Coast do, despite that we will get some good, if y brief at times, openings to the Indian ean region and Africa.

One station to look for is BS-384 Alan, o operates from Reunion Island which ear Madagascar.

Alan is one of the few English speaking tions out of Reunion and is quite active en the band is open. Usually if you can r Alan then your chances of picking up uth Africa are quite good.

Paul, the SM-155, puts a nice signal out South Africa as well as Robbie, the 74-101, from Namibia, South West Africa the Atlantic Ocean side of the country.

There are quite a few operators out of uth Africa and all seem to speak excelt English so it's a matter of being ound at the right time and place to hear em coming in.

ALDIVES AND ANDORRA IS.

It has been some time since I have ard stations from the northern parts of Indian Ocean, namely the Maldives and ychelles Islands — the last time I heard station operating from that area was ck in March/April when the band was at peak. an easier station to hear from the lian Ocean is Gene, the WA-88 operatfrom Cocos Keeling Is. — if you can r Western Australia coming in then you ould be able to receive Gene if he is on. ne is a friend of an old mate of mine the -16, Pat who has since left Cocos Kee and returned to the comforts of the inland.

I have also been told there has been me activity from Andorra Is. which is an lian possession in the Bay of Bengal just uth of Burma, but this one may prove rd to pick due to hordes of stations from ghbouring Indonesia.

It is on rare occasions that the central d northern regions of Africa are heard, in t I have only received two stations from at area so far this year, one being in gos, Nigeria on the west coast and the er in Uganda somewhere.

Also the Canary Islands have been com in during July with some good signals, two days in a row around 1.00pm EST ave heard the CI-207, Yaco out of Las lmas and also the 34-AT-108 — both them were detected via the longpath aming north east, nothing was heard en beaming short path.

With the conditions being in such a depressed state lately it is hard to make any predictions whatsoever concerning opening times to Africa and the Indian Ocean and as I mentioned earlier mid and late afternoon through to the evening seems to be the best bet so far.

EUROPE & MIDDLE EAST

Even though conditions are poor there are some still good DX openings to Europe on a regular basis although signals might be down a bit. The best times to look for the Middle East is from around 3.00pm EST onwards to around 7.00pm at night depending on conditions of course.

A station to look for is Mohammed, 1-KA-77 out of Kuwait along with 1-KA-56 Abdul, also from Kuwait.

Another popular station is "DELTA STATION", Tolly, out of Israel who I quite often pick up when the band is open — he seems to have a good signal despite the conditions and is never short of stations wishing to contact him. A reasonable signal out of Lebanon comes from 112-AT-107 Hani, who speaks good English and French — Hani is usually active when the band is open.

Card from the Papa Whisky DX's Group in Lebanon. If you're interested in information about this group they can be contacted at Papa Whisky Lebanese DX's Group, P.O. Box 175-043, Mar — Michael, Beirut, Lebanon.

I have also heard the odd signal from Qatar, Saudi Arabia and Iran so there are quite a few of them out there but conditions are not very favourable between Eastern Australia and the Middle East at present which is a pity.

Europe seems to be the most faithful when it comes to DX and rarely a day goes past without some station in Europe making it to Australia — usually the Italians and French are the dominant ones on the band followed by Belgium, Holland and West Germany.

One of the most popular stations out of Europe would have to be the 1-AT-502 Antonio, operating from Catania on Sicily Island and he puts quite a nice signal into all of Australia and is quite popular with most of the regular DXers.

Antonio has many DX Awards to his credit and has been awarded the W.A.Z. Award, C.D.M. Award, Special DX'Man Award, Silver DX'Man Plate Award plus many othes including the worked all Australian States and Territories Award, not a bad effort at all considering all of his achievements are on 27MHz radio. To top it off his approach and courteous style of operation must be admired and commended by all who have come into contact with him.

Activity from Scandinavia has been very poor the past few weeks with little or no openings at all to this area in Northern Europe. The odd signals from Finland, Denmark and Sweden are not uncommon and it is just a case of being around the band at the right time, although QRM from Southern Europe can make things difficult at times.

Some of the more active stations out of Scandinavia would have to be 1-FIN-103, Marko along with 56-AT-140, Timo and "045" Victor, all of them from Finland. GRG-1001, Rune from Sweden has also been active and can often be heard when conditions are favourable.

The Mediterranean area has been coming in occasionally with 165-AT-1029, Mauro in Sardinia leading the way along with 1-AT-29 Gino, operating from Pantelleria Island. Greece and Turkey are usually

Continued over . . .

PAPA WHISKY

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To you and your family hoping
to meet you again on the air,
and Good DX's

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DX REPORT FROM NEW SOUTH WALES

(Continued)

readable at this time although conditions from these two countries are also very unpredictable, but, with some patience you will eventually hear them.

A station to look for is DP-09, Dimitrios from Serres, Greece who has a nice signal into Eastern Australia.

Until conditions pick up I cannot foresee any really strong signals from this region for some time yet.

CENTRAL/SOUTH AMERICA & CARIBBEAN SEA

Central America, like Europe, seem to be very faithful to the DXer with some good signals being noted early in the morning (around 0730 EST) through to the mid afternoon and sometimes into the early evenings. Costa Rica, Mexico and Colombia would have to be the most common areas coming through and with some good signals too.

69-AT101, Eduardo in Costa Rica is very active and rarely a morning passes without hearing him about somewhere. It is a pity that his QSLing isn't as efficient as his operating DX. I have head some good signals out of Colombia with 6-AT-104 Jamos, in Popayan leading the way.

The odd signal from Panama can be heard but not often and the ones that do come out of Panama seem to be American personnel working at the Canal Zone area. TransAmerica 68 Portable, Ray working from a mobile near the Canal, does seem to be the most active and most popular.

I think there are a lot more from Panama, but, they are Spanish speaking only which makes it hard for us to identify them.

Mexico always seems to be in and 10-AT-114 Lucas is active along with 10-AT-120 Luis also in Mexico — they are the pick of the English speaking stations although Lucas doesn't seem to have his QSL portfolio in order yet if you know what I mean.

South American DX from the Atlantic facing countries is still reasonably scarce as is the interior countries like Paraguay and Bolivia. There have been some weak signals coming from Paraguay in the early and mid mornings here but nothing significant and they are usually snapped up by North America and Canada. I haven't heard Brazil for some time now — last one I heard from there was 3-AT-018, Tony out of Goiania about 2 months back and even then the signal was only up to a 5 maximum.

I also often hear North American and Mexican stations calling Uruguay and Argentina but cannot hear them at all here in Australia — it is strange that we haven't had any reasonable openings to this part of the world.

DOMINICAN REPUBLIC

Stations out of the Dominican Republic in the Caribbean put nice strong signals into Eastern Australia, 37-AT-107 Jiro, out of Santo Domingo along with 37-AT-108 Raul also in the Dominican Republic speak good English and have many friends in the Pacific. I haven't heard Harvey, the DX-104 out of Haiti on for sometime — perhaps the conditions haven't been favourable to that part of the Caribbean.

In the past few weeks I have heard Barbados, Guadeloupe, Aruba, Bahamas, Trinidad and Peurto Rico so there is quite a bit of activity from these areas in the Caribbean Sea.

The best times for the Caribbean are from early morning through to early afte noon, depending on conditions at th time.

QSL card from Chilean station 32-AT-115, operator Leo in Africa. This station was worked by a DXer in April of this year so don't tell us there's no worthwhile skip about.

ASIA AND THE PACIFIC REGION

As usual, signals are still common ou of Japan, Korea and the Philippines wit the occasional burst from Hong Kong t break the monotony as well as our north ern neighbours in Indonesia who seem t be ever present on the frequencies.

The 100-AT-101 Han, is still coming well from South Korea and is getting pler ty of attention from DXers and eve though conditions are down the Asian still put in some good signals at times wit some well into the red on the meter. Th 65, Ned, here in NSW, told me he ha heard Macau, the last Portugese colony Asia, but, I have yet to hear that one an will definitely be on the lookout for it.

I have heard the odd American statio calling Taiwan but have yet to hear any thing down this way from the old Formos Island.

West and East Coast U.S.A. as well a Hawaii are still holding ground despite th drop in conditions with some strong sig nals still being received here. The island of French Polynesia are still coming in quit well but not as often as they used to owin to the decline of DX conditions — New Caledonia is still holding on to condition quite well along with the odd station fron Wallis & Futuna Island coming in too.

Patrick, the 101-AT-101, is still makin some noise out of Papua New Guinea bu not as strong in signal as he was earlier the year.

New Zealand is not coming in as regu larly as they used to, but, when they do th signals are usually quite good and hold fo a reasonable amount of time.

Activity from the Marshall, Caroline an Kiribati Islands have been scarce latel but, there must be some activity there as have heard other Pacific areas calling ther from time to time.

Asia and the Pacific seem to remain un changed as far as DX openings go and ar usually available right through the hours o daylight time.

LONGPATH NOTES

Europe is possible in the early morning here via the longpath and signals can b heard from Portugal, Spain and sometime Italy between 0800 through to abou 0930 in the morning EST.

Sometimes Central America and North ern America QRM makes it hard to hea them. Later in the morning, around 100 through to about 1100am EST, Gibralta has been heard and later from around noo through to 2.00pm EST the Canary Island have also been heard on longpath.

In the afternoon and into the late eve ning West Coast USA has been heard o longpath with the latest being at 10.00pr EST with W-3-0-2, Pete in Washingto coming quite readable with the beam fac ing West to North West.

On odd occasions Mexico and the Ca ribbean have been worked on longpat while beaming to Europe in the mid-eve ning — even up to 6.00pm EST.

OK, that's all from me for now s good DX and 73s for now . . . Jack

DX REPORT FROM ALBURY/WODONGA

Compiled by Albatross Radio 423

Greetings from the National Growth ntre of Albury/Wodonga.
You've got the NGI531 or Albatross dio 423 with the personal of Allan this y. I run an Apollo AP708 base rig off a f wave vertical and 3 element beam.
My vintage is 38, I am married with one n and one on the way (confirmed on day writing).
Introductions out of the way, I very ch hope to become a regular part of CB tion, keeping you in touch with what pens to be "skipping in" to this part of world at least, as well as other related ms of interest and occasional pieces of ia.
DXing has certainly been fruitful of late h skip romping in from just about every ection. Some of the highlights have en —

FFSHORE DX

East Suva — 18th June — no call sign
Chile — 19th June — again no call sign
New Zealand — various occasions and ious stations, the strongest being Ian the Bay of Plenty on June 25th on LSB around 10am.
USA — just about every other day with lifornia very well represented. Ch. 20 B on Sunday July 3 was dominated by o roosters with the unlikely handles of uitarman" and "Tomcat". The "Rubber cky" therefore may not be dead after

Indonesia — as they are near neighurs, one expects to hear them in now d then but going by recent signal engths, one wonders if they have R.I.'s er there. That aside, we are on citizens nd and must take the good with the bad.
New Caledonia — Paul is his personal (I nk), don't ask me for a call sign as I do t speak French, but anyone who does d runs better than a 2ft. helical would ve QSL'd by now I am sure.
England — I have not heard them pernally (me Mum won't let me stay up that e), but through the medium of my mate al 104, an expatriate Pom, I can report very good authority that the UK has en heard regularly, albeit late at night.
So much for the international scene, hat has been happening around our great untry of Oz?

OCAL SKIP

Well, the Sandgropers have just about ominated the airwaves up to the end of e fiscal year when things started turning ound. Even after that I still enjoyed a od copy on Brian, the Wild Geese 579 31LSB around 12.30pm on July 2 for e second time in as many months. Likese Tony the 18 wheeler from Perth and anks for the QSL cards Bertie.
South Australia has been conspicuously sent in to this area as has Victoria.
Northern Territory are certainly there t getting back is another thing.
Queensland and Tasmania might well ve not existed up until around 6pm on ly 1 when the 145 Georgetown and 27 obart were up in the strawberry patch s way, unable to get back to either rough the "chook pen" however.

Had a nice but short QSO with KR221 Les on Bribie Island around 6.45pm on July 1.

Similarly on the following day, station 375 in central Queensland and RD299 Currumbin proved interesting guys to talk to. Thanks for the cards Bernie and Norm, replies are on the way.

Had a couple of very faint copies on my mate John ARA410 mobile on holiday in Queensland — not enough to make sense of but any operators up north who hear him, go back, he is one hell of a nice guy to talk to.

Sunday 3rd was a particularly good day.

It was one of the very rare occasions that Sydney could be heard in this area and I might add with good signal strength. Had a great copy on Paul ARA274 and was about to QSY off 35 but unfortunately got lost in the chook pen once again.

In addition to Paul, there were many other stations making the trip down here and as often happens I got side tracked and failed to note times and station identifications.

Hopefully our mates in the Harbour City will be back in soon as my log book is almost bare of Sydney contacts.

IAN — THE AIRBORNE

Almost in the believe it or not class.

Ian the 885 airborne romped in here on Monday 4th around 12.45pm on 35LSB and again around 6.10pm. A few local stations got back to Ian, but if you read this please mate, drop me a line c/o CB Action and confirm that you really were transmitting out of a Cessna 176.

Unfortunately some of those that are heard amongst the herd can be as bad as the majority are good.

I speak specifically of a certain "Whiskey" station who was silly enough to give his loction as NW of West Aust. when, on Sunday 18th June, mid morning on 35LSB, he was obviously being splattered by Indonesia. I mentioned earlier that we do run citizens band and that description should not be forgotten.

This individual chose to compose in his devious little mind a suitable punishment for the individual who introduced 27MHz to our neighbours and broadcast same to all and sundry on a much listened frequency.

I can only hope that his club officials have caught up and taken suitable action that is, of course, if the R.I.s haven't beaten them to it.

While Winston is having a wee whinge here, don't you just adore those little Sebastians who delight in converting perfectly good vertical whips on the vehicle into some form of 90° mobile beam? If they flogged the damn thing outright you wouldn't mind so much as there would be the possibility of it being used, but to simply destroy it!

Bring back the lash I say!

Well gang, thats it from me for now. I hope you have enjoyed my first attempt at this caper and I am looking forward to doing it again.

73's and Cheers from Allan Elliot

QUEENSLAND DX REPORT ..... Bushy

Over the past month or so the skip conditions have been very erratic into Queensland, however, we are working into Tasmania on a regular basis with the first contacts being made around 8 am (Queensland time).

The band into the south has been closing down around dusk with stations 387 (Graham) out of Launceston and 81 (Keith) from Hobart always coming in with a good signal.

Greg — 707 on King Island gets out the occasional call around 10 am on weekends, but, not much has been heard from Ray — K120, also of King Island, for a few months.

Victoria drifts in around 11 am with some very strong signals and John — 367 (Geelong) always receives a good report as also does Derek — 218 (Warragul). I also worked John — 1718 a few weeks back while he was scrub bashing in the Grampians.

South Australia is also easy to work on most days, however, of recent months most of the southern states are drowned out by Stateside and Hawaiian stations although Steve — SB19 out of Mount Gambier usually manages to be heard.

Around 4 pm we start to hear West Australian stations and this path stays open for a couple of hours, however, most of the WA stations are chasing Stateside stations and don't talk much interstate skip if overseas conditions are good.

OVERSEAS SKIP

New Zealand has been fairly quiet, but, Jim — 007 from the North Island has got through a few times and other, weaker signals can be heard.

Overseas DX stations can often be heard up here from around 10 pm through to the early hours with Alpha Tangos always puting in solid signals, AT297 (France), 322 (Netherlands) and IC626, also out of France, can usually be found given the right conditions.

The UK often comes in around 8.30 pm with expatriate Roy — KP252 — always ready for a chat and, when the UK fades around 10 pm, we often hear Italy and Spain — but usually for only a short time.

Max AC12 from Hong Kong, Yosho — JDW400 (sometimes calling himself Radio Japan) and Toshi — JA101 are very active as also is Wilfeddo — 028 (Costa Rica) along with several other South American stations.

During the last week of June and into early July there were some South Africans being heard down on the low bands and Ben or Kathy ZK526 can also be copied down there.

IONOSPHERIC INFORMATION

The Ionospheric Prediction Service has a pre-recorded message giving day-to-day advice on skip conditions and, in Queensland, you dial 022698614 while similar services are available in other States.

One of the best pieces of information will be the solar flux number and as a generalisation, the higher the flux number the better the skip. Number 100 will usually get you about 1200 kilometres while 130 will get you into Europe.

All you need to know about . . .

DX PROPAGATION

As we all know only too well, DoTaC — in its infinite wisdom forbids CB stations working overseas DX — and we all know that everyone abides by the regulation.

After all, how long is it since you heard anyone talking to an overseas DX operator (last week maybe?) and we also know that because we're not allowed to work them we certainly cannot get QSL cards from them.

We are, however, allowed to listen to them — providing of course that we are all operating within the 40 channel structure — and an indication of our recent reader survey was that a whole heap of operators would like to know when propagation conditions are be to hear 'em.

So, this month we have re-int duced our propagation forecasts August and September.

They might well be very confusi but, stay with us.

Say for example you're based Sydney and want to listen to a Ja nese CBer — first thing to do is loc the box on the opposite page hea Sydney — Japan.

Now it's full of squiggly things su as dots and % marks, so, now refe the "Legend to Grafex Symbols" a you will see the dots represent pro gation is possible but probably on l than 50% of the days of the mo while the % marks indicate that pro gation is possible on between 50% a 90% of the days of the month.

The figures across the bottom of box — i.e. 00,06,12,18,24 — is time by a 24 hour clock in UTC (Univ sial Co-ordinated Time) so, 18 rep sents 6pm UTC.

UTC is the old Greenwich Me Time and you have to figure this against your own local time as 18 UTC means a different local time Perth than it does on the East Coas

East Coast of Australia time is hours ahead of UTC, therefore 18 hours UTC becomes 4am local tim

In direct relationship to the Sydn Japan chart, this means that if you l on the East Coast your best chance "hearing" Japanese CBers is betwe 0100-0600 UTC, or, 11am and 4 local time.

Grafex prediction charts are suppl courtesy of the Ionospheric Predict Service, 162-166 Goulburn Stre Darlinghurst, NSW.

LEGEND TO GRAFEX SYMBOLS

- ● Propagation is possible but probably o less than 50% of the days of th month.
- % Propagation is possible on betwee 50% and 90% of the days of th month.
- 'F' Propagation is possible by the First modes on at least 90% of the days the month.
- 'E' Propagation is possible by the E mod on at least 90% of the days of th month.
- 'M' Propagation is possible by both th First and Second F modes on 90% the days of the month.
- 'S' Propagation is possible by the Secon F mode on 90% of the days of th month.
- 'A' High absorption — above the ALF bu probably too close to it for good H communication.
- 'X' Complex mixture of modes includin the Second E Mode.

SAWTRON KG107 COMMERCIAL TRANSCEIVER

Imark Pty. Ltd. have released the SAWTRON KG 107-40ECB Scanning Transceiver for use in the 470-485 MHz commercial band and the CB Radio band.

Many users of UHF CB radio have a need for a Business Band frequency as well as CB frequencies.

Conversely, many Business Band users have a need to talk to UHF CB operators. By developing a special version of the KG107 Business Band radio, IMARK is now able to offer a KG107 transceiver to satisfy the requirements of these particular user groups.

The rig is a UHF FM frequency synthesised mobile transceiver with two banks of 99 channels providing a total of 198 channels. It has an RF power output of 25 Watts on the commercial frequencies and 5 Watts on the UHF CB frequencies.

State of the art circuitry includes a microprocessor and EPROM for frequency and function control. Two MC Filters and a ceramic filter ensures excellent receiver performance.

It incorporates many features not available on similar radios. These include All Channel Scan, Memory Scan, Priority Channel and Memory Scan with Priority Scan. Other microprocessor controlled features are automatic LED dimmer, high or low audio tone, error warning tones and a transmit time limiter function.

These functions provide users with maximum convenience and versatility and yet retain a very simple basic operation for those users wanting simplicity.

The SAWTRON KG107 is compact and will fit into the smallest DIN size radio aperture in vehicle dashes. Furthermore, it is ideally suited for remote mounting in todays compact vehicles.

The Power Amplifier is a commercial duty broadband integrated circuit and includes circuits to protect the PA device against the effects of poor VSWR's and excessive temperatures.

The control head can be remotely mounted if desired and includes controls for channel selection, volume, squelch and optional 5 Tone Selecall or CTCSS modules. LED's are included for channel and tone displays. Individual LED's are also used to indicate the last two tone codes (if the Selecall or Tone options are installed) and to indicate channel busy, transmit, priority, scan and/or repeater status.

The integrated front mounted speaker provides accurate audio reproduction and an additional output is provided for the optional 5 watt extension speaker.

A comprehensive range of accessories is available including 5 Tone Selecall with automatic answer back, single or multiple CTCSS squelch system, Multicall 5 tone Selecall with Multitone CTCSS squelch system, digital privacy unit (scrambler) and DTMF or dual tone signalling. Minor options such as selectable TTL, ANI, monitor busy channel, TX inhibit when busy, receive lockout, community repeater function and others are also available.

Obviously, the SAWTRON KG107 40ECB has targeted a specific market area and will cater for that market admirably.

Further details can be obtained from the importers, Imark Pty. Ltd., 167 Roden Street, West Melbourne, Victoria, 3003. Telephone (03) 329 5433. Fax (03) 328 4431 or Sydney (046) 272 535.

TE AUGUST 1988

DNEY-JAPAN .0 .%%%%%.... .. . HZ ! ! ! ! ! 00 06 12 18 24	SYDNEY-MIDDLE EAST 27.0 ....%... . MHZ ! ! ! ! ! 00 06 12 18 24	SYDNEY-CENTRAL EUROPE 27.0 . MHZ ! ! ! ! ! 00 06 12 18 24	SYDNEY-SOUTH AFRICA 27.0 ..%%. MHZ ! ! ! ! ! 00 06 12 18 24
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RTH-NEW ZEALAND .0 ..... . HZ ! ! ! ! ! 00 06 12 18 24	PERTH-ENGLAND SR 27.0 ..... MHZ ! ! ! ! ! 00 06 12 18 24	PERTH-WEST AFRICA SR 27.0 .%%.. MHZ ! ! ! ! ! 00 06 12 18 24	PERTH-ENGLAND LR 27.0 MHZ ! ! ! ! ! 00 06 12 18 24
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ATE SEPTEMBER 1988

YDNEY-JAPAN .0 MMMMMF%%%..... .MM M HZ ! ! ! ! ! 00 06 12 18 24	SYDNEY-MIDDLE EAST 27.0 .%%%%%.. . MHZ ! ! ! ! ! 00 06 12 18 24	SYDNEY-CENTRAL EUROPE 27.0 ..... MHZ ! ! ! ! ! 00 06 12 18 24	SYDNEY-SOUTH AFRICA 27.0 %%%%.. MHZ ! ! ! ! ! 00 06 12 18 24
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YDNEY-ENGLAND LR .0 HZ ! ! ! ! ! 00 06 12 18 24	SYDNEY-WEST AFRICA LR 27.0 .. ..%.. . MHZ ! ! ! ! ! 00 06 12 18 24	PERTH-JAPAN 27.0 MMMMMMMM%%%%. . .M MHZ ! ! ! ! ! 00 06 12 18 24	PERTH-MIDDLE EAST 27.0 .MMMMM%%%%..... . MHZ ! ! ! ! ! 00 06 12 18 24
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DELAIDE-P.N.G. .0 %%%%%..... %% .% HZ ! ! ! ! ! 00 06 12 18 24	BRISBANE-NEW ZEALAND 27.0 ... .. . MHZ ! ! ! ! ! 00 06 12 18 24	ADELAIDE-NEW ZEALAND 27.0 %.... . % MHZ ! ! ! ! ! 00 06 12 18 24	DARWIN-NEW ZEALAND 27.0 %... .. % MHZ ! ! ! ! ! 00 06 12 18 24

Club NEWS

Well, you will have noticed that the CLUB REGISTER has vanished from this issue. Some of the entries almost went back to the pirate days.

To regain an entry in the CB ACTION CLUB REGISTER, each club will have to dip their thumbnails in tar and write me a letter (addressed to CLUB NEWS, PO BOX 184, NORTHBRIDGE, 2063) giving the necessary details. As well as the usual state register there will also be a National and International inclusion.

The deadline for the next issue is August 26.

I really appreciate the clubs that are taking the time to send in information on events, club background, etc, etc. Now for the clubs which have promised and done nothing. Members, get onto your committee and ask it to write in with information so that we can support your club.

This month the largest UHF club in Melbourne still has not sent in the copy that it promised.

Neither have the 'Albatrosses' and the 'Brolgas'.

Also the Bunbury Radio Club. How about it, David? Show some of that Crocodile Dundee style, or did Rambo hit you on the head with a Quarterwave?

BROLGA ONE'S AUSTRALIA ALL OVER TOUR

Townsville identity Reg Richards, or Brolga 1 as he is known to thousands of CBers throughout Australia, is travelling around at the moment contacting clubs and individuals who have assisted him to raise large sums of money for a number of charities; but Reg is better known for his efforts in the fight against cancer.

During these sits Reg received sponsorship from local companies and individuals who gave 20 to 50 cents per confirmed call as well as general donations from the public who came to see this crazy old CBer.

This trip is a little different. Reg is not receiving the usual sponsorship. He is relying on meeting and getting the sponsorship from you, the CBers of Australia.

If you missed out on donating to this worthy cause, all you have to do is go into any Westpac branch and send the money to Westpac, Rising Sun, Queensland, No 734 209, account number 54-5418.

Keep a listen out for Reg in your area.

Incidentally, full marks to the Brisbane operator who told Reg he would set the pace for that city and donate $50. Reg waited three days and still did not get the money.

BAR POINT BASE

The Bar Point Base, in theory, should not even be here as it is a marine-orientated club. However, as they operate mainly on 27 megahertz as well as other HF and VHF frequencies, and as it is a task of total dedication, we feel that it is worthy of a report.

Bar Point may appear to be a lonely spot with no road access, however, it is located in one of the busiest recreational waterways in Australia, the Hawkesbury River just north of Sydney.

For those who went to the Sydney Radio Field day they may have met Gary Barker, a Sydney Radio member, and the girls at the Bar Point club stand.

The base, operated by Barbara Karadin, has been operational for two years, has around 400 members and operates from 0900 to 2200 hours seven days a week. The club's patron is John Laws.

The crew at the base keep a constant finger on the pulse of river life, monitoring for safety purposes and giving on-air aid where needed. The club's motto 'Facta Non Verba' (Deeds, not words) is certainly lived up to. We can fully recommend that those using the waterways should give their fullest support to this club. The club can be contacted by phoning (02) 455 2266 (after 9am).

RADIO TASMANIA ASSOCIATION

Radio Tasmania Association recently celebrated its tenth year since inauguration at a family barbecue at Lauderdale near Hobart. The Association has steadily grown over the years to an end goal of 100 members.

The main function of this honorary Association is to foster good relationships and learn radio operational procedure. The group can be proud of a high percentage of members who have contributed to the club's image as a radio group of good standard. The Association insists that each member abides strictly to the seven golden rules as follows:

1. Members must be licensed operators.
2. Abide by the laws as set down by the Department of Communications.
3. Unknown applicants will not be enrolled until after one month's operational procedures.
4. The Association reserves the right to withdraw membership if said member has not operated for a period of one year and/or in the case of misconduct.
5. Respect call channels; no swearing do not conduct a QSO on call channels always QSY to another channel.
6. Do not break into the middle of QSO, i.e. always break at the end of a over by identifying your station, your identity and location.
7. Keep up the good name of the Radi Tasmania Association.

By the way Tassie, whatever happene to the 'Smoking Joe Mobile'?

He never seems to get on air.

RINGWOOD & DISTRICT RADIO & SOCIAL CLUB

The committee and members of th RADRASC wish to inform our readers jus a little about their club. They began in Oc tober, 1986 with three members and since then, have increased in number very gradually. Their main activities are:

Monthly barbecues.

On-air forum (Tuesday nights at 1900

Two major charity fund-raising activ ties per year.

VIKING RADIO CLUB

The Viking CB Radio Club celebrated it 10th birthday in April, 1988. It was a grea success and they had a very good attend ance of members, families, friends and vis itors — some from Tasmania an Queensland.

At their annual meeting the followin members were voted into the committe — President Dick Viking 6. Vice-Presider Peter Viking 59, Secretary Sabine Vikin 57, Treasurer Dave Viking 66, Liaison Off cer Yvonne Viking 44, Editor Lin Vikin 23, Daytime Base Yvonne Viking 8, Nigh time Base and Weekend Base Dick Vikin 6, UHF Base Danny Viking 28.

CHANGE OF DAY

There has been a change of day fo communicating with the students o Mainsbridge Special School in Liverpoo The school is on each Friday from 1.50pr to 2.50pm. A big thanks to the skip sta tions that have taken the time to speak t these students and for the cards they hav sent.

These students are intellectually hand capped but their speech and confidence i speaking to people have improved im mensely — one up for CB radio.

The Viking Radio Club welcomes an items of interest for its club's newslette How about putting me on your mailing lis Yvonne? Around October the Viking clu will be having a DX competition — so a you CBers in other states, listen out for th Vikings. They QSL 100% and hope othe CBers do the same.

SYDNEY RADIO GROUP

The club, apart from social activitie (the next one is a steak night on 3rd Sep tember) is concentrating on its amateu theory and regulations.

The Sydney Radio Group has asked m to remind the readers that the compute ised listing of members has allowed state prefix on their callsigns and the grou now has members in Western Australia Victoria, New South Wales and Queens land. Guess they have gone multi-nationa

Great stuff; keep those letters comin in on club histories and current events. P BOX 180 NORTHBRIDGE, NSW, 2063 Grab your mike and give me a call, the 7 in Sydney.

Can you find the radar in this picture? Cobra can.

By the time you see the radar source, chances are it's too late. But if you had a Cobra Trapshooter radar detector, it would sniff it out in an instant.

Cobra Trapshooter's not only find radar wherever it lurks, but also filter out false signals that other detectors simply can't.

Both the miniaturised yet incredibly sensitive Cobra Trapshooter Ultra, and the Cobra Trapshooter employ the latest technology in electronic circuitry to warn you of radar, even over hills and around the bend.

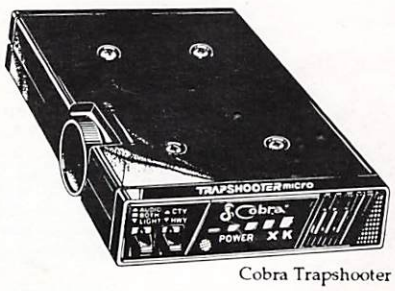
The Cobra Trapshooter, for visor or dash mount, literally fits into the palm of your hand.

The Trapshooter Ultra is even smaller, with its unique, sporty design, and 3 different alarm settings: voice warning, melody and beep.

Oh, the radar? Take a good look. It's just beyond the bend, behind the row of trees on the right.

Still can't see it? Better get a Cobra.

Cobra Trapshooter Ultra RD 3170



Cobra Trapshooter RD 3160

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